

# The Astrogram

VOLUME XVIII

NUMBER 27

October 7, 1976

## Viking: Research and results at Ames



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Goodwill serves people with all types of handicaps. About half of the handicapped have mental, emotional or social handicaps, and approximately one-third have body or limb disabilities and about 10% have sight or hearing handicaps.

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### ORGANIZATION

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Chapters include:

1. Central Area (Campbell, Cupertino, Los Gatos, San Jose, Santa Clara, Saratoga and Milpitas)
2. Los Altos (Los Altos and Los Altos Hills)
3. Mountain View
4. Palo Alto-Stanford
5. South County (Morgan Hill, Gilroy, San Martin and Coyote)
6. Sunnyvale

The United Way adheres strictly to the "Industry Audit Guide for Audits of Voluntary Health and Welfare Organizations," put out by the American Institute of Certified Public Accountants.

Our financial statement is published yearly in an annual report and is public information.

### FINANCES

A seven-member finance committee, comprised of specialists in the field, monitors all financial activities of United Way. This volunteer committee answers to the County Board of Directors and receives staff support from the financial director on the United Way staff.



Ralph Lewis, 1977 CFC Loaned Executive, works game table.

ARC Director, Dr. Hans Mark, will direct the new Government division of the campaign. For the first time all city, county, state, and federal employees will be grouped in one division and solicited under the direction of a county-wide chairman.

## Some facts

Last year, 531 aged, lonely or infirm people in Santa Clara County received weekly visits from some 307 volunteers from Friendly Visiting Service, a United Way agency. Of those who were visited, 257 were in convalescent hospitals, 58 were in residential care homes and 216 were in private homes.

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In Santa Clara County last year, 54,990 visits to 2,379 patients were made by staff personnel from Visiting Nurse Association, a United Way agency which provides nursing care as well as speech, physical and occupational therapy for persons confined at home. The services are on a sliding scale based upon ability to pay.

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Eastfield Children's Center in Campbell is the oldest social service agency in Santa Clara County. This United Way agency provides five programs for children and families whose emotional problems are not met by other resources: institutional facility for disturbed children, group homes for children, foster homes, day treatment, and out patient programs. Casework and psychiatric services are provided in each of the five programs.

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Last year, 789 youths in Santa Clara County were able to attend summer camp through United Way support of the Community Campership Fund, Inc. All were from low-income families, and most could not have gone to camp without United Way assistance.



PALO ALTO MEDICAL RESEARCH INSTITUTE, formed in 1950 by Russell V. Lee, is run on a \$1.5 million budget, 70% of which is federal funds; \$22-25,000 per year is United Way funds. Above, the Director of Administration clues Ralph Lewis and David Fisher in on the research highlights of the foundation.



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5. South County (Morgan Hill, Gilroy, San Martin and Coyote)
6. Sunnyvale

The United Way adheres strictly to the "Industry Audit Guide for Audits of Voluntary Health and Welfare Organizations," put out by the American Institute of Certified Public Accountants.

Our financial statement is published yearly in an annual report and is public information.

## FINANCES

A seven-member finance committee, comprised of specialists in the field, monitors all financial activities of United Way. This volunteer committee answers to the County Board of Directors and receives staff support from the financial director on the United Way staff.



Ralph Lewis, 1977 CFC Loaned Executive, works game table.

ARC Director, Dr. Hans Mark, will direct the new Government division of the campaign. For the first time all city, county, state, and federal employees will be grouped in one division and solicited under the direction of a county-wide chairman.

## Some facts

Last year, 531 aged, lonely or infirm people in Santa Clara County received weekly visits from some 307 volunteers from Friendly Visiting Service, a United Way agency. Of those who were visited, 257 were in convalescent hospitals, 58 were in residential care homes and 216 were in private homes.

\*\*\*

In Santa Clara County last year, 54,990 visits to 2,379 patients were made by staff personnel from Visiting Nurse Association, a United Way agency which provides nursing care as well as speech, physical and occupational therapy for persons confined at home. The services are on a sliding scale based upon ability to pay.

\*\*\*

Eastfield Children's Center in Campbell is the oldest social service agency in Santa Clara County. This United Way agency provides five programs for children and families whose emotional problems are not met by other resources: institutional facility for disturbed children, group homes for children, foster homes, day treatment, and out patient programs. Casework and psychiatric services are provided in each of the five programs.

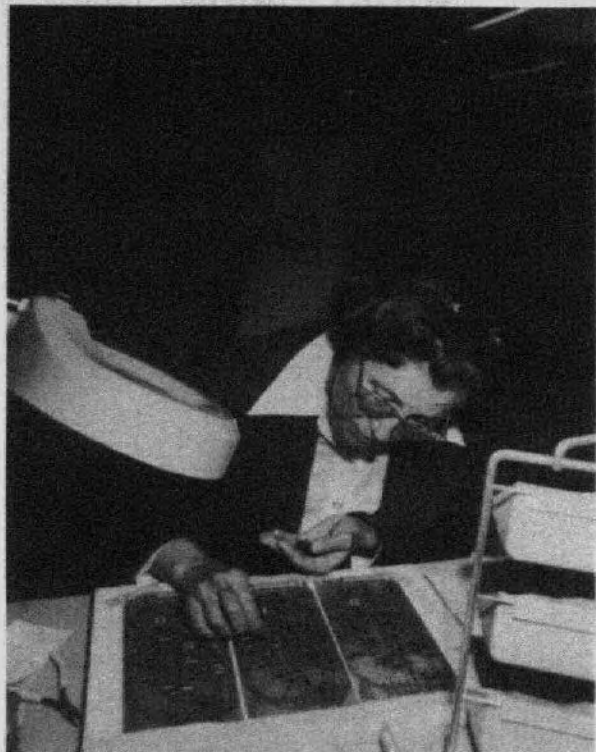
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Last year, 789 youths in Santa Clara County were able to attend summer camp through United Way support of the Community Campership Fund, Inc. All were from low-income families, and most could not have gone to camp without United Way assistance.



PALO ALTO MEDICAL RESEARCH INSTITUTE, formed in 1950 by Russell V. Lee, is run on a \$1.5 million budget, 70% of which is federal funds; \$22-25,000 per year is United Way funds. Above, the Director of Administration clues Ralph Lewis and David Fisher in on the research highlights of the foundation.





*GOODWILL participant demonstrates circuit board.*

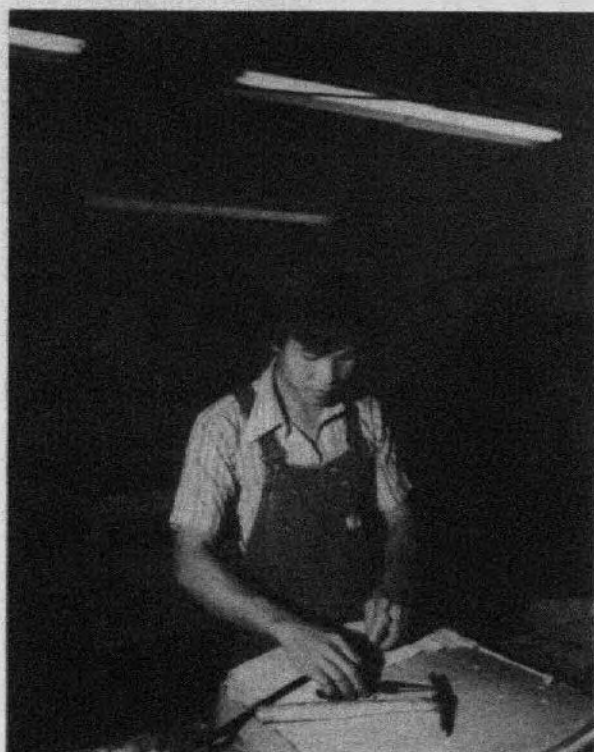
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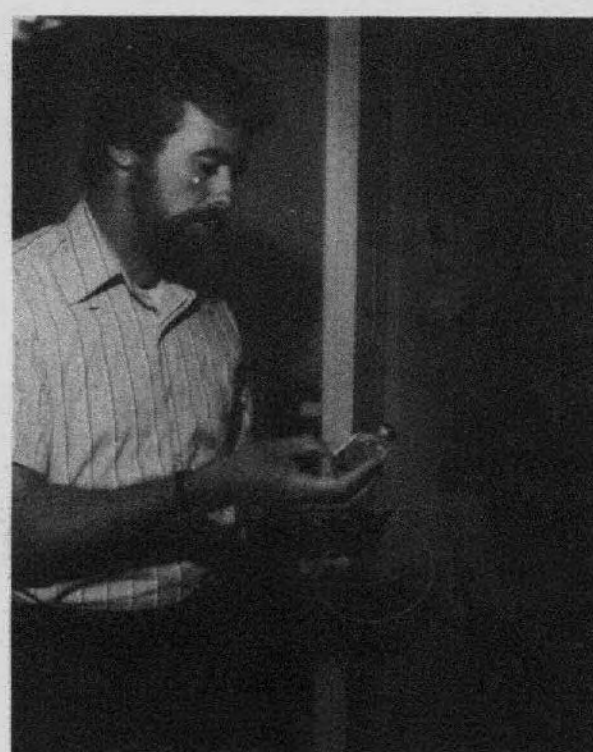


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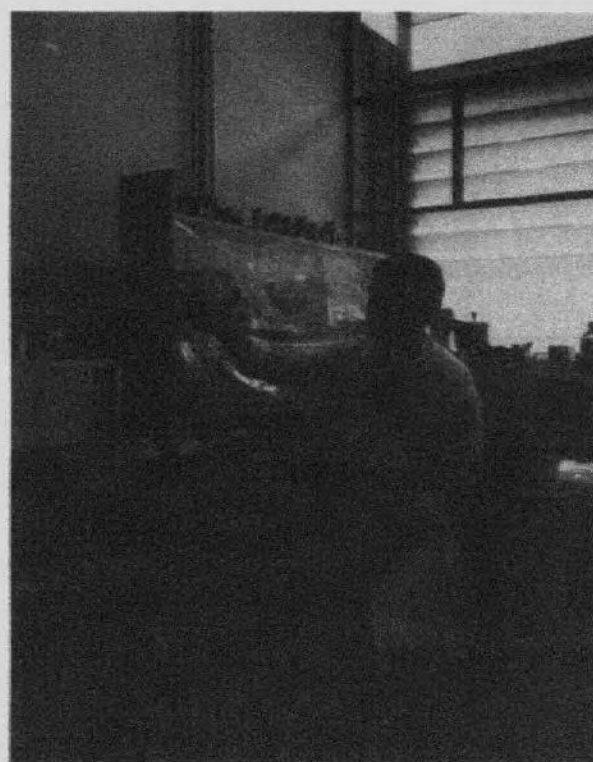
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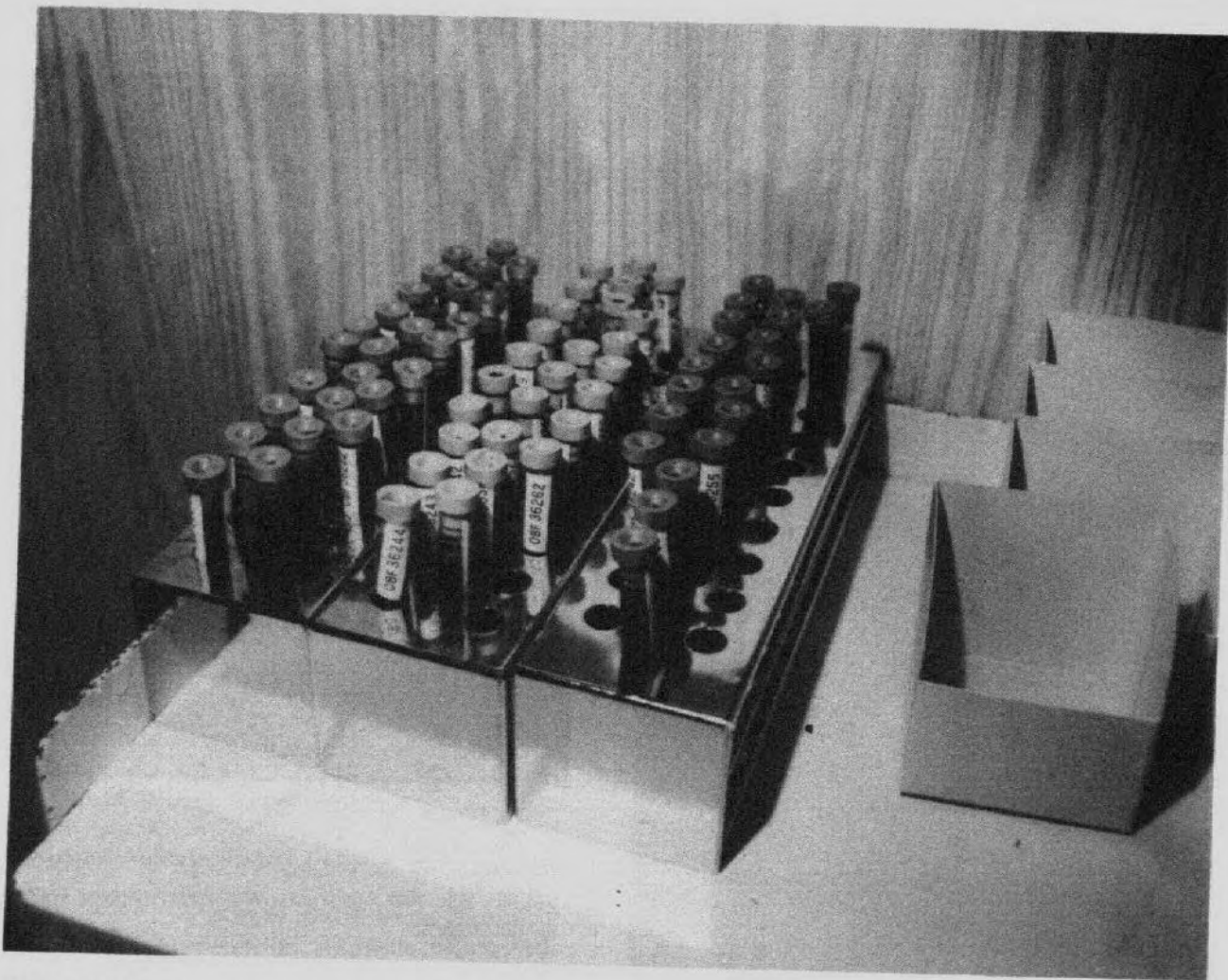
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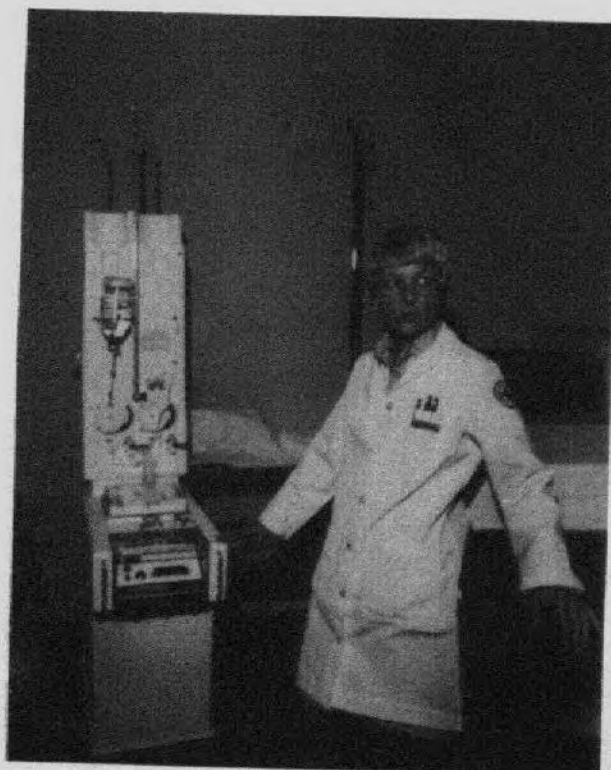
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GOODWILL guide.



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## Gold country itinerary

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Overall — C. McCloskey/C. Lombard

First Flight — 1: E. Menefee/O. Koontz; 2: P. Kutler/D. Chausse; 3: F. Lazzeroni/G. Lazzeroni; 4: D. Banducci/B. Kelley.

Second Flight — 1: B. Scott/J. Caydt; 2: A. Joly/R. Dick; 3: B. Ross/I. McGinnis; 4: J. McCloy/J. Mullen.

## Jetsetters' news

23-24 October — GOLD COUNTRY. Cost \$39 per person/double occupancy. Includes motorcoach transportation from Moffett Field to Grass Valley (continental breakfast served enroute and picnic lunch at Empire Mines), Nevada City, wine party and deluxe overnight accommodations in Auburn, on to Colma, Sutter's Mill, Placerville, Sutter's Creek, Jackson, Kennedy Wheels, Angels Camp, Murphys, dinner (no host) in Sonora, and return to Moffett Field. Last date for reservations — 8 October. Contact Ruthie White, Ext. 5157, MS 202-3.

2-9 November — MAZATLAN. Co-sponsored with the Ames Golf Club. Contact Howard Mathews, 967-8168, for details.

19-21 November — LAS VEGAS. Cost \$120 per person/double occupancy. Includes chartered airplane from San Jose Airport to Las Vegas (Lockheed Electrojet), transportation from Las Vegas airport to Hotel, 2 nights accommodations at the Landmark Hotel, luggage handling, gaming refund, and California Host escort. Seats are limited — reservations should be made by 8 Oct. Reservations will be taken until 14 October PROVIDED SEATS ARE STILL AVAILABLE. Contact Ruthie White, Ext. 5157, MS 202-3.

26 November and 10 December — SUN PRINCESS CRUISE — MEXICAN RIVIERA. Family Bonanza on 26 November cruise. Up to 4 children under age 16 (immediate family members only) are FREE. For information contact Marian Davis, X5832, MS 206-3.



## Ames Merit Promotion Plan vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
77-1	Teller	GS-5/6	AFP	Centerwide & Outside	10-15-76
77-2	Supvy. AST Technical Engr. — Operations Mgmt. (Chief, User Applications Branch)	GS-14/15	SEA	NASA-wide & Outside	11-1-76
77-3	Secretary (Typing) or Secretary (Stenography)	GS-4/5	STP	Centerwide & Outside	10-18-76
77-4	Supervisory Electronics Engineer (Assistant Chief, Electronic Instrument Development Branch)	GS-13/14	RFD	NASA-wide	10-29-76
77-5	Secretary (Typing) or Secretary (Stenography)	GS-4/5	RQ	Centerwide & Outside	10-18-76

TO APPLY: Call Extension 5599 or 5600.

### MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
76-149T	Lead Payroll Clerk	AFP	Eleanor Holt

## Want ads Transportation

'71 Cougar, PS, good cond., \$1300 firm, Byrd, 867-9497.

'67 Ford Mustang 289cc. New Trans, rel. new tires. \$800. Moving, must sell. Call Ted, 968-5026.

'65 Ford Falcon, 2 door. Good mileage (20 MPG). 6 cylinder, straight stick. Good rubber. \$300 firm. Art Gobets, 739-2787.

'73 Porsche 914 2.0 — 23,000 miles; app. gp.; AM/FM; mint condition throughout. \$6800/offer. (415)321-5846.

'70 Plymouth Sports Fury. Power brakes/steering and air conditioning. New steel radials. Really good running condition. \$1300 or best offer. Call Jeanne 243-4413 after 5 p.m.

'68 Pontiac Catalina, 8 cyl., 4 door, black top, gold body color, PS, PB, AC, good condition, available Oct. 21, \$650/best offer, 961-8670 after 6 p.m.

'72 Pinto w/2000 c.c. engine. Very good condition. Open to much dickering. Call 651-9540, evenings.

## Housing

Appealing 3 bdrm, 2 ba home with garage, frplc, crpts, easy care yard, 2 blks to buslines, near National and Los Gatos-Almaden road, \$395 mo., f.i. & dep. 356-2230 or call BIJOY, 735-0635.

FOR RENT: 3 br, 2 ba, fenced back yard, 2-car garage. Carpet, fireplace. \$295/mo. Call 252-3937 evenings.

FOR RENT: Beach house at Pajaro Dunes, completely furnished, cleaning included in the rent, beautiful views of Monterey Bay. See picture on bulletin board in Cafeteria. Reserve now for Fall weekends. Call John Lundell, 252-7260.

## Miscellaneous

FREE — four (4) pet chickens need a home. Three of the four are egg-layers. Chickens are for egg or chick production only. C. J. Fenrick, 738-3098.

5 American Mag. rims, 15". Fits GM made cars/trucks. \$95. 262-5906.

Typewriter — Royal Standard model. Exc. cond. \$30. 253-4475.

FOR SALE: Sears Deluxe Slanting Flexing Exerciser, in new condition, cost \$50, will sell for \$29. Redwood patio table and two benches, \$15. Antiqued night stand, \$15. Call 323-7070.

Judo suit, size 3. Almost new. \$15. Alto sax (Conn), exc. cond., new pads, \$250/offer. 736-9203, Jim.

Small Mahogany coffee table, about 36"x22"x18". Good condition, \$20. Call 948-9399.

For Sale — 21" RCA Color TV, console model. Needs new picture tube. \$45. Call 738-2976 after 5:30.

Would like to join existing or start a carpool from vicinity of Valley Fair Shopping Center to ARC. Call Cindy, 5620.

Sony transistorized portable tape recorder. AC or battery operation. Auto/manual switch. Seldom used. Excellent condition. Model No. TC-800. \$90. 252-1229, evenings.

Share Ski Cabin — two story cabin in Tahoe City (North Shore) will sleep 14 easily. Desire to share with 2 other families or couples for the winter season from Thanksgiving through April. Contact Shel Smith at 965-6330.

Video color recorder, new and working, \$22; Video B&W camera, \$150; or both \$350. Also Smith Corona manual typewriter in good condition, \$40. Pool HPE earth type filter (for 18 ft Doughboy pools) and ladder, both \$50. Phone 378-5741.

INDUSTRIAL LEAGUE BASKETBALL. Anyone interested in playing basketball for the Ames Industrial team this fall should contact Paul Kutler, ext. 6415 or 5125.

FOR SALE: Culligan automatic water softener. 257-5722 after 6 p.m.

FOR SALE: English riding boots, size 6. Exc. cond. \$10. Call Isabel after 6 p.m. at 327-6463.

WANTED: Photobook "Above San Francisco, vol. I"; a cabin tent (8x10 or smaller); used chest; Hirose, 967-4790.

Craftsman 8" tilt-arbor circular saw, side extensions, dado cutters and table insert, new 1/2 h.p. motor (110V), wood cabinet stand, \$115. Call 739-3922 after 5 p.m.

SALE of Government property at Defense Supply Agency Disposal

Date: November 10, 1976

Open to public five days prior to sale for screening. Located at Bldg. A27 (NAS) adjacent to Building 245.

## Heart test

The training Office in conjunction with the Safety Office is sponsoring a health education series aimed at reducing the risk of heart disease. The series is part of the Stanford Heart Disease Prevention Program.

The one-hour video tape TV program is in a question and answer format in which you will learn about the risk factors which lead to heart attack and stroke. You will also be given the opportunity to evaluate your own current risk and to identify those factors which should be reduced.

The Heart Health Test will be shown four consecutive Fridays at noon on October 8, 15, 22, and 29. The first showing was today but there is still time to sign up for the other dates by calling the Training Office, extension 5622.

## The Astrogram

Room 142, Admin. Mgt. Building, Phone 965-5422

The Astrogram is an official publication of the Ames Research Center, National Aeronautics and Space Administration, Moffett Field, California, and is published bi-weekly in the interest of Ames employees.

Editor . . . . . Meredith Moore  
Associate Editor . . . . . Marcia Kadota  
Reporters . . . . . NASA Employees

Deadline for contributions: Thursday between publication dates

### NASA

National Aeronautics and  
Space Administration

Ames Research Center  
Moffett Field, California 94035  
AC 415 965-5091

AN EQUAL OPPORTUNITY EMPLOYER

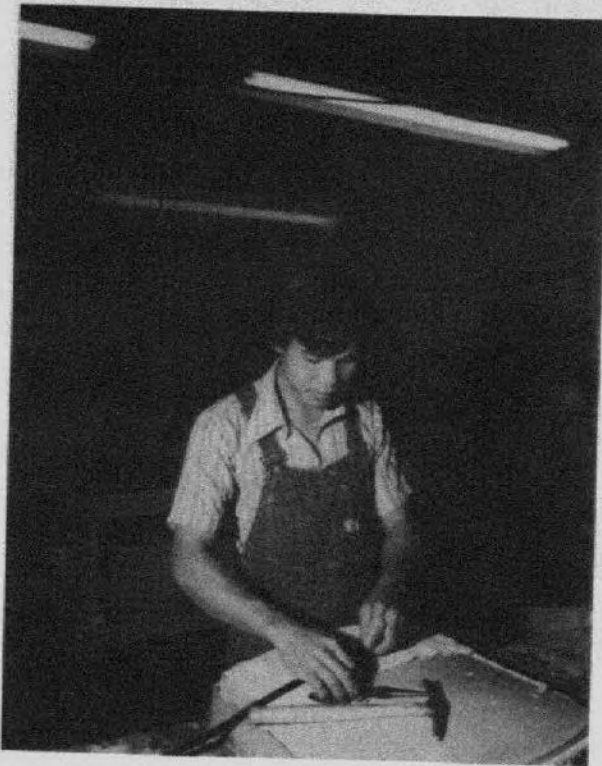
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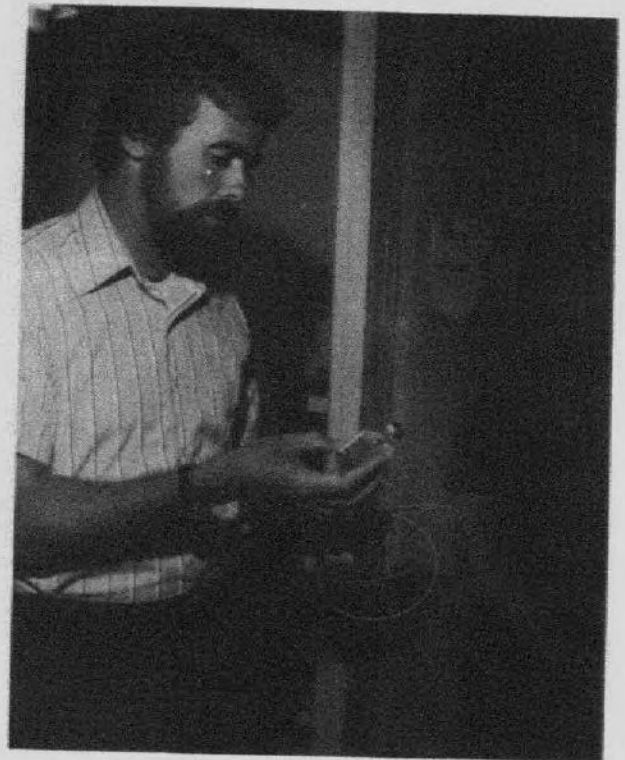




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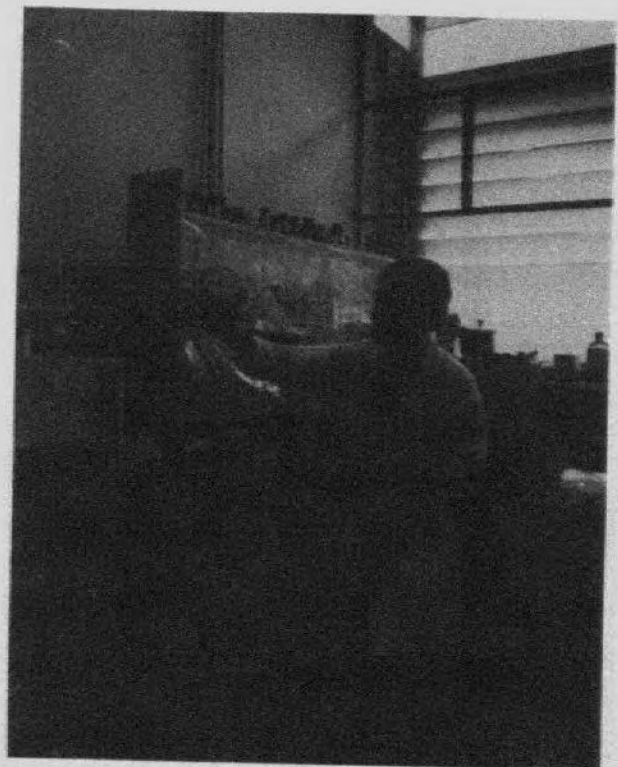
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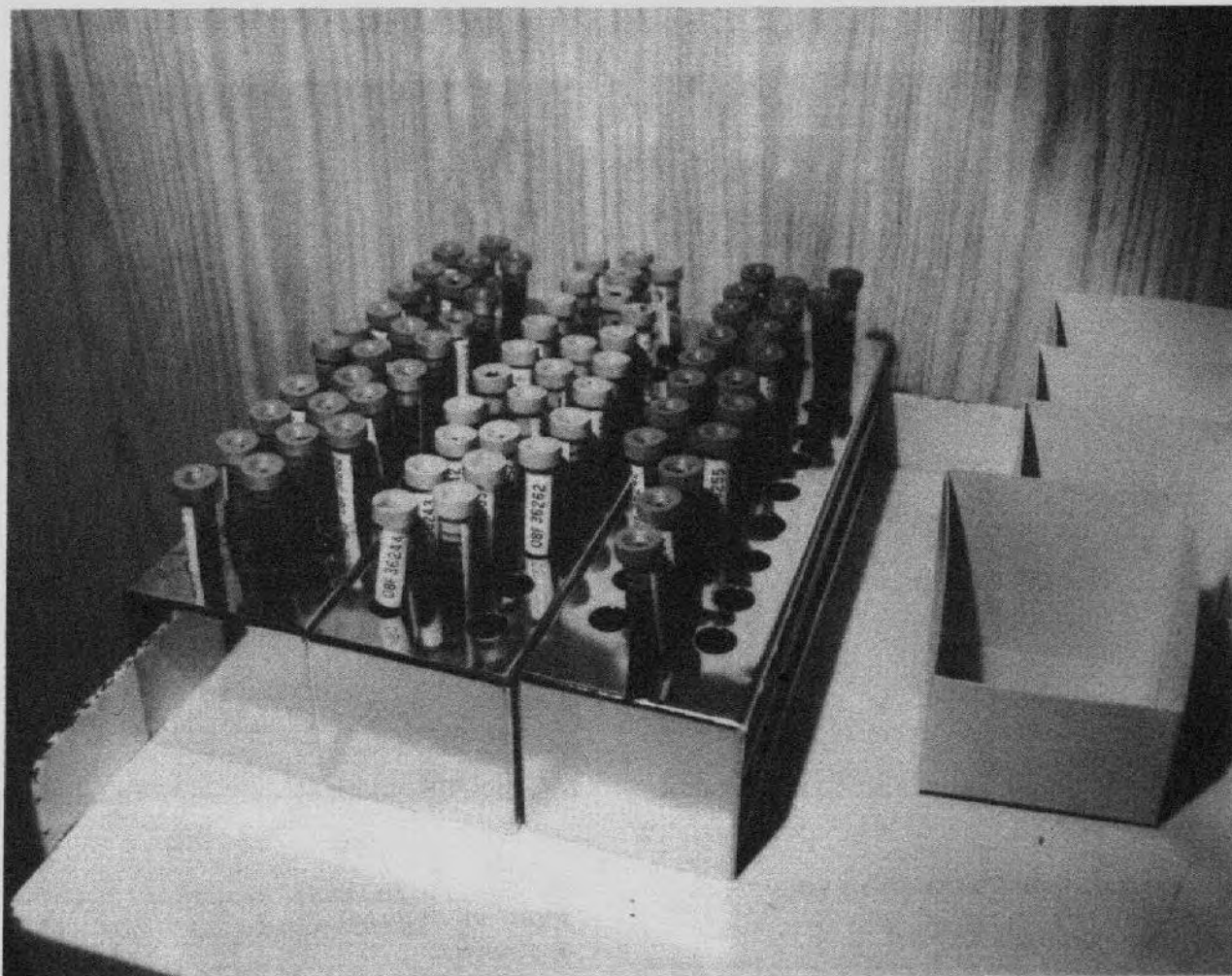
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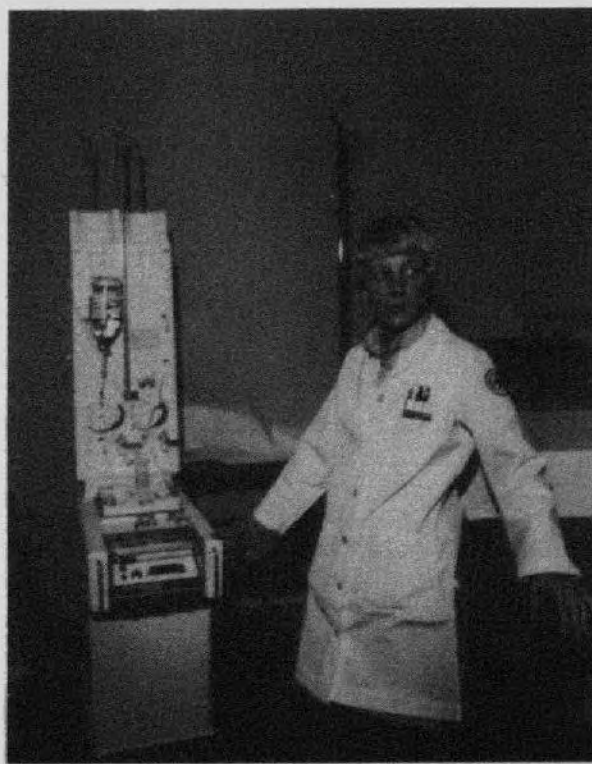
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- Second Flight - 1: B. Scott/J. Caydt; 2: A. Joly/R. Dick; 3: B. Ross/I. McGinnis; 4: J. McCloy/J. Mullen.

## Jetsetters' news

23-24 October - GOLD COUNTRY. Cost \$39 per person/double occupancy. Includes motorcoach transportation from Moffett Field to Grass Valley (continental breakfast served enroute and picnic lunch at Empire Mines), Nevada City, wine party and deluxe overnight accommodations in Auburn, on to Colma, Sutter's Mill, Placerville, Sutter's Creek, Jackson, Kennedy Wheels, Angels Camp, Murphys, dinner (no host) in Sonora, and return to Moffett Field. Last date for reservations - 8 October. Contact Ruthie White, Ext. 5157, MS 202-3.

2-9 November - MAZATLAN. Co-sponsored with the Ames Golf Club. Contact Howard Mathews, 967-8168, for details.

19-21 November - LAS VEGAS. Cost \$120 per person/double occupancy. Includes chartered airplane from San Jose Airport to Las Vegas (Lockheed Electrolet), transportation from Las Vegas airport to Hotel, 2 nights accommodations at the Landmark Hotel, luggage handling, gaming refund, and California Host escort. Seats are limited - reservations should be made by 8 Oct. Reservations will be taken until 14 October PROVIDED SEATS ARE STILL AVAILABLE. Contact Ruthie White, Ext. 5157, MS 202-3.

26 November and 10 December - SUN PRINCESS CRUISE - MEXICAN RIVIERA. Family Bonanza on 26 November cruise. Up to 4 children under age 16 (immediate family members only) are FREE. For information contact Marian Davis, X5832, MS 206-3.



## Ames Merit Promotion Plan vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
77-1	Teller	GS-5/6	AFP	Centerwide & Outside	10-15-76
77-2	Supvy. AST Technical Engr. — Operations Mgmt. (Chief, User Applications Branch)	GS-14/15	SEA	NASA-wide & Outside	11-1-76
77-3	Secretary (Typing) or Secretary (Stenography)	GS-4/5	STP	Centerwide & Outside	10-18-76
77-4	Supervisory Electronics Engineer (Assistant Chief, Electronic Instrument Development Branch)	GS-13/14	RFD	NASA-wide	10-29-76
77-5	Secretary (Typing) or Secretary (Stenography)	GS-4/5	RQ	Centerwide & Outside	10-18-76

TO APPLY: Call Extension 5599 or 5600.

### MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
76-149T	Lead Payroll Clerk	AFP	Eleanor Holt

## Want ads Transportation

'71 Cougar, PS, good cond., \$1300 firm, Byrd, 867-9497.

'67 Ford Mustang 289cc. New Trans, rel. new tires. \$800. Moving, must sell. Call Ted, 968-5026.

'65 Ford Falcon, 2 door: Good mileage (20 MPG). 6 cylinder, straight stick. Good rubber. \$300 firm. Art Gobets, 739-2787.

'73 Porsche 914 2.0 — 23,000 miles; app. gp.; AM/FM; mint condition throughout. \$6800/offer. (415)321-5846.

'70 Plymouth Sports Fury. Power brakes/steering and air conditioning. New steel radials. Really good running condition. \$1300 or best offer. Call Jeanne 243-4413 after 5 p.m.

'68 Pontiac Catalina, 8 cyl., 4 door, black top, gold body color, PS, PB, AC, good condition, available Oct. 21, \$650/best offer, 961-8670 after 6 p.m.

'72 Pinto w/2000 c.c. engine. Very good condition. Open to much dickering. Call 651-9540, evenings.

## Housing

Appealing 3 bdrm, 2 ba home with garage, frplc, crpts, easy care yard, 2 blks to buslines, near National and Los Gatos-Almaden road, \$395 mo., f.i. & dep. 356-2230 or call BIJOY, 735-0635.

## The Astrogram

Room 142, Admin. Mgt. Building, Phone 965-5422

The Astrogram is an official publication of the Ames Research Center, National Aeronautics and Space Administration, Moffett Field, California, and is published bi-weekly in the interest of Ames employees.

Editor . . . . . Meredith Moore  
Associate Editor . . . . . Marcia Kadota  
Reporters . . . . . NASA Employees

Deadline for contributions: Thursday between publication dates

FOR RENT: 3 br, 2 ba, fenced back yard, 2-car garage. Carpet, fireplace. \$295/mo. Call 252-3937 evenings.

FOR RENT: Beach house at Pajaro Dunes, completely furnished, cleaning included in the rent, beautiful views of Monterey Bay. See picture on bulletin board in Cafeteria. Reserve now for Fall weekends. Call John Lundell, 252-7260.

## Miscellaneous

FREE — four (4) pet chickens need a home. Three of the four are egg-layers. Chickens are for egg or chick production only. C. J. Fenrick, 738-3098.

5 American Mag. rims, 15". Fits GM made cars/trucks. \$95. 262-5906.

Typewriter — Royal Standard model. Exc. cond. \$30. 253-4475.

FOR SALE: Sears Deluxe Slanting Flexing Exerciser, in new condition, cost \$50, will sell for \$29. Redwood patio table and two benches, \$15. Antiqued night stand, \$15. Call 323-7070.

Judo suit, size 3. Almost new. \$15. Alto sax (Conn), exc. cond., new pads, \$250/offer. 736-9203, Jim.

Small Mahogany coffee table, about 36"x22"x18". Good condition, \$20. Call 948-9399.

For Sale — 21" RCA Color TV, console model. Needs new picture tube. \$45. Call 738-2976 after 5:30.

Would like to join existing or start a carpool from vicinity of Valley Fair Shopping Center to ARC. Call Cindy, 5620.

Sony transistorized portable tape recorder. AC or battery operation. Auto/manual switch. Seldom used. Excellent condition. Model No. TC-800. \$90. 252-1229, evenings.

Share Ski Cabin — two story cabin in Tahoe City (North Shore) will sleep 14 easily. Desire to share with 2 other families or couples for the winter season from Thanksgiving through April. Contact Shel Smith at 965-6330.

Video color recorder, new and working, \$22; Video B&W camera, \$150; or both \$350. Also Smith Corona manual typewriter in good condition, \$40. Pool HPE earth type filter (for 18 ft Doughboy pools) and ladder, both \$50. Phone 378-5741.

INDUSTRIAL LEAGUE BASKETBALL. Anyone interested in playing basketball for the Ames Industrial team this fall should contact Paul Kutler, ext. 6415 or 5125.

FOR SALE: Culligan automatic water softener. 257-5722 after 6 p.m.

FOR SALE: English riding boots, size 6. Exc. cond. \$10. Call Isabel after 6 p.m. at 327-6463.

WANTED: Photobook "Above San Francisco, vol. I"; a cabin tent (8x10 or smaller); used chest; Hirose, 967-4790.

Craftsman 8" tilt-arbor circular saw, side extensions, dado cutters and table insert, new ½ h.p. motor (110V), wood cabinet stand, \$115. Call 739-3922 after 5 p.m.

SALE of Government property at Defense Supply Agency Disposal

Date: November 10, 1976

Open to public five days prior to sale for screening. Located at Bldg. A27 (NAS) adjacent to Building 245.

## Heart test

The training Office in conjunction with the Safety Office is sponsoring a health education series aimed at reducing the risk of heart disease. The series is part of the Stanford Heart Disease Prevention Program.

The one-hour video tape TV program is in a question and answer format in which you will learn about the risk factors which lead to heart attack and stroke. You will also be given the opportunity to evaluate your own current risk and to identify those factors which should be reduced.

The Heart Health Test will be shown four consecutive Fridays at noon on October 8, 15, 22, and 29. The first showing was today but there is still time to sign up for the other dates by calling the Training Office, extension 5622.

# NASA

National Aeronautics and Space Administration

Ames Research Center  
Moffett Field, California 94035  
AC 415 965-5091

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**NASA**

# The Astrogram

VOLUME XIX NUMBER 1

October 21, 1976

## Federal Employee's Seminar

To launch the second annual Women's Program Committee "Federal Employee's Seminar" program, two prominent Bay Area women will speak at the opening lunch program on Tuesday, November 9th.

The Mayor of Livermore, Helen Tirsell, has been involved in civic and government activities for many years. Educated in Iowa and a teacher in Michigan and New York, Helen came to California in 1965 when she became interested in local government activities. As Mayor of Livermore, she will provide a special insight to "Women in Government Service."

Lynne Joiner is well known to all Bay Area TV viewers as the anchor woman on KPIX Eyewitness News program. Lynne has had an active and interesting career in news magazines, newspapers, and on television. Her trips to China with a delegation of U.S. Congresswomen provided a particularly noteworthy program. Her news on the career woman in the private sector will be of particular interest.

This exciting lunch program will be held at the Moffett Field Officers Club and all Ames staff and contractors are invited. Look for more complete information about the entire program in the following weeks.

## Fire Prevention Week announced

(See Page 3)

## Snively to leave NASA

Lt. General William W. Snively, USAF (Ret.), has announced his plans to leave NASA on Sept. 30, 1976. Snively has accepted an executive position in Saudi Arabia.

Snively joined NASA in September 1975 when he succeeded Lt. Gen. Duward L. Crow who has been appointed Associate Deputy Administrator. Prior to joining NASA, Snively held numerous positions in the U.S. Air Force, the last being Deputy Chief of Staff for Systems and Logistics.

NASA Administrator Dr. James C. Fletcher, commenting on Snively's departure said: "During the year Gen. Snively has been with us, he has done much to improve working relationships with the Department of Defense and other federal agencies. I am especially pleased with his contributions to the significant progress we have made on Space Shuttle program matters involving the DOD, the Air Force, and the GAO. NASA will sorely miss him."

A successor to Snively will be named in the near future.

## Native American Awareness Week

President Ford has signed a resolution proclaiming the week of October 10-16, 1976, as Native American Awareness Week. Accordingly, Dr. Fletcher has issued a special announcement to NASA employees requesting that they observe the week with appropriate ceremonies and/or activities.

Although time limits the planning of an elaborate program, Center Director Dr. Hans Mark asks that each of us join in observance of this year's Native American Awareness Week. Native Americans have contributed significantly to the growth of America. Ames will display, in the main Library this week, some of their contributions.

## Major Almojuela recently promoted



Hank Lessing (right) pins "Major's leaves" on newly promoted Major Thomas Almojuela.

Major Thomas Almojuela, Ames Avionics Research Branch was recently promoted to his present rank. Almojuela is a military detailee assigned to NASA Headquarters with a duty station here at Ames.

Lt. Col. Dan Dugan (U.S. Army ret.), Flight Operations Branch and Avionics Research Branch Chief, Henry Lessing presented Almojuela with the set of Major's leaves Dugan wore during his tour of duty in Viet Nam.

Major Almojuela, a Squamish Indian from Bainbridge Island, Washington, is an honors graduate of West Point. He was the first Indian in more than a century and a half to make it through the military academy and become an Army officer. He received his Bachelors degree in engineering.

Following graduation from West Point, Almojuela spent two years in Germany as a tank company commander and two years in Viet Nam. Before finishing his Viet Nam tour of duty, Almojuela had won the Silver Star, two Distinguished Flying Crosses, two Bronze Stars with "V" device for valor, two Army Commendation Medals with "V" device, the Air Medal with 23 Oak-Leaf Clusters, the Vietnamese Cross of Gallantry and the Combat Infantryman's badge.

After the war, the Army sent Almojuela to Stanford University where he earned his Master's degree in mechanical engineering.

A golf enthusiast, Major Almojuela took the North American Indian Golf Championship held in late August in Alberta, Canada, and came in second at the U.S. All Indian Open in Utah, losing only by one stroke. He is currently the Club champion at Moffett.

At Ames, Almojuela is involved with the research for the advanced avionics systems for military aircraft.



## EOP Complaint Process

The EOP Office has received numerous calls regarding procedures for processing complaints of alleged discrimination. These procedures are also posted on all bulletin boards with pictures of counselors.

### PROCEDURES FOR PROCESSING COMPLAINTS OF DISCRIMINATION IN FEDERAL EMPLOYMENT BASED ON RACE, COLOR, RELIGION, SEX, NATIONAL ORIGIN, OR AGE

1. Employee or Applicant contacts Equal Employment Opportunity Counselor within 30 calendar days of the alleged discriminatory action. Counselor has 21 calendar days to attempt informal resolution.
2. Employee or Applicant may file a complaint with EEO Officer (or other Appropriate Agency Official) if informal resolution cannot be effected, within 15 calendar days after the final interview with Equal Employment Opportunity Counselor or after 21 calendar days from the first contact with the Counselor about the matter if no informal resolution is effected.
3. EEO Officer advises Director of Equal Employment Opportunity, who assigns Investigator from a jurisdiction within the agency other than that in which complaint arose.
4. Investigation conducted. Complainant is given a copy of the investigative file. EEO Officer provides opportunity for informal adjustment.
5. If adjustment is not made, EEO Officer notifies Complainant of proposed disposition, advises Complainant of right to hearing or decision without a hearing.
6. If Complainant does not reply within 15 calendar days, EEO Officer may adopt proposed disposition as decision of the agency, provided he or she has been delegated this authority. Otherwise complaint is forwarded to Agency Head (or designee) for agency decision.
7. If Complainant asks for hearing, agency requests Civil Service Commission to assign Equal Employment Opportunity Complaints Examiner, who must be from an agency other than that in which complaint arose.
8. Complaints Examiner reviews file; remands complaint to agency for further investigation if necessary; schedules and conducts hearing.
9. Hearing recorded and transcribed verbatim. Complaints Examiner makes findings, analysis and recommended decision; forwards these and complaint file to Agency Head (or designee).
10. Head of Agency (or designee) makes agency decision, based on file, giving Complainant copy of Complaints Examiner's recommended decision. Must give reasons for rejection or modification of the recommended decision.
11. Complainant has right to appeal to Civil Service Commission's Appeals Review Board within 15 calendar days of agency decision or to file a civil action in Federal District Court within 30 calendar days of agency decision.
12. If Complainant elects to appeal to the Appeals Review Board, he or she may file a civil action in Federal District Court within 30 days of the Board's decision on the appeal.
13. Complainant may file a civil action in Federal District Court if final action on his complaint is not taken by agency within 180 days of filing or if final action is not taken on an appeal to the Appeals Review Board within 180 days of filing.

NOTE: Discrimination complaints based on age will be accepted and processed under these procedures only if the complainant was at least 40 and less than 65 years of age at the time the discriminatory action is alleged to have occurred. If the complainant is dissatisfied with the final decision of the agency with regard to his or her complaint of age discrimination, or with the final action taken by the Commission on an appeal from the agency's decision, the complainant may file a civil action in Federal District Court. Time limits for filing civil actions referred to in items 11 and 12 of the above outline do not pertain to age discrimination complaints. In lieu of filing a discrimination complaint based on age and having it processed as outlined above, the complainant may serve the Civil Service Commission with notice of intent to file civil action and after 30 days, proceed directly into Federal Court.

All complainants have the right to be represented by persons of their own choosing at any stage in the presentation of a complaint, including the counseling stage.

## Forfeiture of annual leave

Employees are reminded that to avoid forfeiture of annual leave for reasons of sickness or exigencies of the public business, annual leave must be scheduled, requested in writing, and approved for use in time to be used before the end of the year. In order for any forfeited leave to be restored, the

annual leave must be requested and approved at least six weeks prior to the end of the leave year. Standard Form 71 is required for documentation of annual leave requests and approvals in instances involving restoration of forfeited annual leave. Seek AMM 3630-3 for further information.

## ARA ACTIVITIES

### Jetsetter news

2-9 November - MAZATLAN. Co-sponsored with the Ames Golf Club. Contact Howard Matthews, 967-8168, for details.

19-21 November - LAS VEGAS. Contact Ruthie White, Ext. 5157, M/S 202-3.

26 November - 10 December - SUN PRINCESS CRUISE - MEXICAN RIVIERA. Family Bonanza on 26 November cruise. Up to 2 children under age 16 (immediate family members only) are FREE. (This was erroneously announced in the last Astrogram as up to 4 children free. If a family has more than 2 children, contact the travel agency - The Travel Company, 732-0199 - they may be able to work out some arrangements for taking additional children.) For additional information contact Marian Davis, ext. 5832, M/S 206-3.

### Mazatlan, Mexico-\$199

Roundtrip non-stop charter flight via Mexican Airlines 727 jet, featuring the festive atmosphere of Mexico plus free wine, beer and champagne and gourmet meal service.

EL CID Hotel Resort Beach, Golf and Racquet Club - 7 nights - features free 18-hole par 72 championship course, free tennis on lighted courts, three swimming pools, free towels and chairs for beach. Your room is a mini-suite, air-conditioned, a private lanai, refrigerator, etc.

Transfer and one piece of luggage, including all gratuities.

Gala Arrival Cocktail Party with music at the Resort.

A score of special optional events have been planned including an authentic Mexican Fiesta, special charter fishing rates, City Tour, Bay Cruise, Jungle Cruise, free group golf and tennis lessons and much more. Spend-a-little, play-a-lot, holiday in Mazatlan.

For more information phone: Howard Matthews, 967-8168.

### Photo club

NASA Ames Photography Club meeting at 4:30 p.m., Wednesday, October 27 in the Space Science Auditorium, N-245, features a competition of color and black and white prints and color slides judged by Henry W. Greenhood. Mr. Greenhood has international competition awards in color, nature, and photojournalism photography. Visitors are welcome.

### Fastpitch softball

The NASA Ames Fastpitch Softball Team, for the second year in a row, won a championship. Bob Corbett pitched the team to a 5 to 3 win in a championship match with the San Jose Foulballers. This year's team established some team records: team batting average - 0.303; stolen bases - 53; and most wins in a season - 18. George Alger also established a homerun record by hitting 8 out of the park. Leading hitters were Larry Gary .479, Mike Green .327, Jim Myers .322, Roger Hedlund .311, Bruce Ganzler and Al Hopkins at .307. Utility outfielder Jeff Hammill hit .428. The pitching chores were held down by Bob Corbett (9-4) and Jim Myers (8-3). Strong showing by newcomer Mike Ospring, second year men Fred Peters and John Fetter and outfielders Paul Soderman and Steve Kanally contributed to the success of the team this year.



# Fire Prevention Week proclamation

Two hundred years ago the United States of America declared its independence. More than a century before that the need for organized fire protection was recognized in the colonies with the establishment of the first fire departments. The same appreciation of the need for community protection is still needed today in order to avoid the destructive effect of uncontrolled fire.

Each year in the United States alone, more than three million fires and explosions kill 12,000 persons; seriously burn another 300,000; and destroy more than \$4 billion in property. Another \$7 billion is spent for fire departments, fire insurance, and related costs.

The richest and most technologically advanced nation in the world, we nevertheless lead all the major industrialized countries in per capita deaths and property loss from fire.

Most fires can be traced to a lack of active concern for fire safety. Unfortunately, the innocent — the very young and the aged — are most frequently the victims.

This tragic situation need not continue. Methods of coping with fire's destructiveness have been developed. But technological advances alone will not stop the needless waste in human suffering and resources. A greater awareness of fire safety by all of us remains the only real answer.

NOW, THEREFORE, I, GERALD R. FORD, President of the United States of America, do hereby designate the week beginning Sunday, October 3, 1976, as Fire Prevention Week.

I urge all citizens to work with their families and communities to learn and practice the basic rules of fire safety.

I call upon all State and local governments, business, labor and other organizations, as well as schools, civic groups, and the media to observe Fire Prevention Week, to provide useful fire-safety information to the public, and to solicit the active participation of all citizens in fire prevention programs.

I also ask the National Fire Protection Association, members of the Joint Council of National Fire Service Organizations, the National Fire Prevention and Control Administration, and other fire safety groups to provide the leadership and planning for a national fire prevention effort.

Finally, I urge every citizen to remember that fire safety must be practiced year-round to be truly effective, not just during Fire Prevention Week.

IN WITNESS WHEREOF, I have hereunto set my hand this third day of September, in the year of our Lord nineteen hundred seventy-six, and of the Independence of the United States of America the two hundred and first.

Gerald R. Ford



Poor fire prevention habits cause fires — but **NOT KNOWING WHAT TO DO DURING A FIRE CAUSES DEATH.**

**PLAN** two escape routes from every room in the house.

**PROTECT** your family by making your escape routes work. Make sure kids know how and when to open windows. Provide escape ladders if feasible.

**PRACTICE** fire escape plans. Make sure everyone knows the escape routes—by occasional drill.

## Fire

First, evacuate everyone from the building at once.

Next, call the fire department or have someone else call.

Then, if the fire is small, you can try to fight it while waiting for help, but leave yourself an escape route.

Use water to combat fire of wood, cloth or paper.

Smother burning grease or petroleum products with a wool rug or blanket, or use a dry chemical extinguisher. Water can cause this type of fire to splatter.

Electrical fires call for a dry chemical or CO<sub>2</sub> fire extinguisher. If one is not available, shut off the electric current and use water.

## Smell smoke

Don't throw open the bedroom door and rush into the hall. First, feel the panels and doorknob to find out if they are warm.

If the door is warm, don't open it. Heat and smoke could rush in and overcome you in seconds. Call loudly to warn everyone in the house of the danger. Make your escape through a bedroom window. If this is impossible, stuff blankets under the door to keep out smoke while awaiting rescue.

If the door is cool, cautiously open it and be ready to slam it shut again should you encounter a blast of heat. If the way is clear, lead the family out of the house and call the fire department.

## Leaking gas

The immediate danger of leaking utility gas is an explosion. Vacate the house at once and from a neighbor's home call the local gas company for an emergency investigation.

If, for some reason, you must remain in the house, open doors and windows — both top and bottom. Do not switch on a light or strike a match. Turn off the gas supply at the main valve near the meter. Most meters are now located outside the house, but it may be in the basement, garage, or utility room. Know the location of your gas meter.

## Gas poisoning

To protect yourself from being overcome, open all doors and windows and shut off the gas source.

Remove the victim to fresh air and begin artificial respiration at once.

Send for medical aid.

## Car fires

Most fires are the result of a short circuit in the car's electrical system.

Don't waste time trying to disconnect the battery. If you don't carry a fire extinguisher, rip loose any burning wires with a stick or the jack handle and smother with a blanket or coat. Don't grab the wires with your bare hands.

If the fire burns out of control and endangers the gas tank, get away from the car immediately.

## Burns

Burns are classified into three degrees of severity:

First Degree: The outer skin is reddened and slightly swollen.

Second Degree: The under skin is affected and blisters are formed.

Third Degree: The skin is destroyed and tissues underneath are damaged.

Burns of the second or third degree require emergency treatment. Remove or cut away loose clothing and apply a sterile dressing large enough to cover the burn and thick enough to exclude air from the area.

Never break a burn blister or apply oily or greasy medications to second or third degree burns.

Shock is always a dangerous possibility following a serious burn. Keep victim lying down and well covered. Move to hospital, preferably by ambulance.

In the case of a minor first degree burn, immerse the affected area in cold water until the victim ceases to feel pain. Then apply a burn ointment.

In the case of a chemical burn, remove the contaminated clothing and flood the affected part with water. The bathroom shower or garden hose are good.



## Ames Merit Promotion Plan vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
76-135T	Supervisory Aerospace Engineer	GS-14/15	LB	NASA employees	10-29-76
77-6	Technical Assistant (AST Technical Mgt.)	GS-12/13	ST	Directorate of Astronautics	10-29-76
77-7	Engineering Information Assistant	GS-5/6	RF	Centerwide & Outside	11-1-76

TO APPLY: Call Extension 5599 or 5600

### MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
76-128T	Engineering Technician (GO)	FLI	Paulette Burgess
76-137T	Contract Specialist	ASR	Betty Walker
76-143T	Secretary (Typing)	RFS	Karen Kelly
76-144T	Wind Tunnel Mechanic Foreman	FAO	Anthony Goularte and Joseph Lamica
76-145T	Secretary (Typing) or (Stenography)	LM	Margaret Wimsett
76-150T	Secretary (Typing)	AFB	Roberta Pittman

## Want ads Transportation

'71 Catalina, 2-door, 45,000 mi., \$1200, after 4 p.m., 984-8168.

FOR SALE: '73 Honda (350) Excellent cond., 6,000 orig. miles, \$800 or best offer. 259-8581.

'29 Model "A" Ford, needs work. \$1600. 325-9451 after 6 p.m.

FOR SALE: 1973 Chevy Luv. 31,000 miles, AM-FM, blue, 25-mi. per gallon, \$2500 or offer. Call 967-1854, Terry, after 6 p.m.

'72 Datsun 240Z, Konis, Mags, louvered rear window, special exhaust, AM-FM, \$3995. Phone 243-4826.

For Sale: Suzuki P-120B motorcycle - reworked, runs like new - \$195. 493-9406.

'71 240Z, excellent condition, extras, offer. Michael, 964-6650.

## Housing

Share SKI rental - House at Lake Forest, Tahoe City. Sleeps 22 comfortably, on good access road. \$150 per person, Thanksgiving through April. Contact Linda Jahnke at 969-5979.

FOR RENT: Swiss Chalet cabin at North Shore, Lake Tahoe, Alpine Meadows, AEK, dishwasher, 2 bed, 2 baths, sleeps 7, call M. Moore, 739-5373.

HOUSE FOR LEASE - Sunnyvale. 3 bedroom, 2 bath, double garage, fireplace, carpets, water softener, range, refr., dishwasher. Nicely landscaped. Four miles to Ames. Available at \$400 per month. Call 736-1475 eve. and weekends.

## Miscellaneous

FOR SALE: Siberian Husky Puppies. AKC. 6 weeks old - Adorable! 251-0239 after 5:30 p.m.

For Sale: 21" Color TV (RCA) works OK - \$50. DC to 5 mc scope - \$75. TV alignment generator (sweep/marker) - \$40. M. Wash, 259-7607.

FOR SALE: Amateur radio station, Heathkit SB301, SB401, SB200, SB620, 18AUT, HQ1, CDR Antenna Rotor, and 30' mast. Package deal \$750 or best offer. Call 262-6944 after 5:30 p.m.

Ebonite B-flat clarinet with carrying case. Good condition, \$90. Call 374-8142 evenings.

For Sale: Ski boots, 2 pr. 8 1/2 and 9D - \$10 each; 2 pr. both 10 1/2 - \$15 each; 2 pr. skis - 6 ft with bindings, Head's 6 ft 10 in. - \$15 each. 493-9406.

For Sale: Sears, 24-in. power lawn mower, Briggs & Stratton engine - \$35. 493-9406.

FOR SALE: Contax IIIA 35mm Camera, with Ever-ready case, plus: Zeiss 50mm Sonnar f2.0; Zeiss 50mm Sonnar f1.5; Zeiss 35mm Planar f3.5; Zeiss 135mm Sonnar f4.0; Nikkor P.C. 85mm f2.0; PLUS Zeiss Rotating Turret Universal Finder; Zeiss Range-finder Close-Up Contameter. Price complete - \$650. Call Earl Menefee, (408) 243-5382.

FOR SALE: Men's Ski Boots, size 10, Lange Phantoms (high backs) - \$85. Call 252-6038.

FOR SALE: Two D70-14 Kelly-Springfield "Super Charger" tires, almost new; \$25 each or both for \$45. One D60-14 tire; \$10. Bicycle, girl's (6 to 12 year age group), excellent condition. \$25. Call (408) 374-2369.

4x5 View Camera - Arca Swiss \$225; Polaroid back \$25; Calumet roll film back, \$50; 135mm f/5.6 Symmar S Lens, \$225. Camera and lens used once. Will sell items separately. 738-2948.

Wanted: Parallel rule drafting board; HP35 or 21. Jack Addison, 493-7304.

4 - 13" Rims plus deluxe wheel covers for Dodge Dart or Plymouth Valiant plus 6 tires all for \$19. 1 - "Lawn King" power lawn mower plus 1 "Lawn King" power edger, both for \$49 or offer. 2 Adult size Sears "Helmsman" life jackets. Highly rated. Used once; \$12 each. 738-2948.

FOR SALE: Octagonal, birch table and 4 chairs w/upholstered seats, \$150. Walnut end table w/drawer, \$25. Large, Provencal style bookcase, 7 shelves, \$35. Call 969-5979.

For Sale: Fender "Champ" electric guitar amplifier, \$70; El Degas guitar, \$50; Cleveland trumpet, \$100; and ladies 3-speed bicycle, \$20. Call 245-2377.

For Sale: Upright piano, newly refinished; good condition. \$390 or best offer. 257-1847.

FOR SALE: S.F. Opera tickets: "Makropolis Case", Oct. 29, "Angle of Repose". Nov. 26. Orchestra right center rows D and E. \$22.50 each. Gerald L. Smith, 961-5993.

FOR SALE: Girls CCM figure skates - Size 1 - \$5. Girls custom made figure skating costume and tights (approx. size 8) - \$5. Jill Tarter, ext. 5231.

## Viking book out

An 80-page book titled "Viking 1 Early Results," the first formal report of early scientific results from the Viking mission to Mars, has been published by NASA's Scientific and Technical Information Office.

In addition to providing a concise description of the Viking mission, its scientific experiments and objectives, the volume also describes the Viking 1 lander's first 25 days of operation on the surface of Mars.

These results, covering the lander environment, composition of the soil, Mars weather and the search for life, while serving as what is described as "a preliminary and tentative account of early conclusions," provide an exciting and historic first-hand look into the mysteries of the Red Planet.

The book also contains 50 photographs of Mars taken from the surface and from orbit.

## The Astrogram

Room 142, Admin. Mgt. Building, Phone 965-5422

The Astrogram is an official publication of the Ames Research Center, National Aeronautics and Space Administration, Moffett Field, California, and is published bi-weekly in the interest of Ames employees.

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# The Astrogram

VOLUME XIX

NUMBER 2

November 4, 1976

## Ames personnel receive invention awards



*Pictured above are the recipients of Tech Brief Awards. (Front l-r) Charles Kubokawa, Wilbur Vallotin, John Parker, Bill Williams, Kenneth Orloff, Reginald King and Hans Mark. (Back l-r) Darrell Brekke, Theodore Wydeven, Hubert Vykukal, and Richard Fish.*

August 10, 1976, nine Ames employees received a total of \$13,750 in Invention and Contribution Awards. John Parker, Richard Fish, and Robert Rosser each received a \$3,500 award for the development of a Fiber-Modified Polyurethane Foam for Ballistic Protection. The material is used for filling voids around fuel cells in military aircraft to protect from the spreading of fire in case of a ballistic incendiary impact as well as protecting the fuel cell from exterior fire. The material is presently used in the A-10 aircraft and army helicopters.

Bill A. Williams received a \$1,000 award for the development of Liquid Cooled Liners for Helmets. The cooling liner can be incorporated into any type of helmet or headgear, such as fireman's hats, miners, or other industrial worker's hard hats. Acurex Corporation is producing the liner for the commercial market. The first commercial models have been delivered to the Bureau of Mines.

Kenneth Orloff received a \$1,000 award for the development of a "Laser Velocimeter." This development should provide significant research possibilities in fluid mechanics and aerodynamics. For example, measurements of the flow around the helicopter rotor could not have been made without the Laser Velocimeter.

Theodore Wydeven was awarded \$500 for development of "Dielectric Films for Improved Life of Polymeric Insulators." The film produced by plasma polymerization has widespread application to electrical devices in printed circuits which need protection from degradation by corona discharge.

Hubert C. Vykukal, Reginald F. King, and Wilber C. Vallotton received \$250 each for development of a "Master/Slave Manipulator System." The innovation is an anthropomorphic master/slave manipulator system with capabilities equivalent to the mobility, dexterity, and strength of the human arm. This innovation is not related to a specific NASA manned or unmanned space mission, but the technological advancement is considered applicable to all NASA future requirements for remote manipulation. The Ames remote manipulation system is being used in several laboratories (ARC, JPL, MSC) for research and development in the teleoperator area.

The Awards and Contribution Board is authorized by the Space Act to recognize employee and contractor innovations by providing cash awards. The Minimal Award is fifty dollars (\$50) when a Tech Brief is published or one hundred dollars (\$100) when a Patent Application is filed for an innovation reported to the Technology Utilization Office and/or the Patent Counsel. The Board gives special consideration to those items which are a significant scientific and technical contribution and/or are transferred and used in the private or public sector.

As the Patent Counsel and the Technology Utilization Office prepare special justification for the Boards consideration, two important steps are required and should be emphasized. One, employee innovations must be reported if they are to be considered and secondly, evaluations (Award Evaluation Questionnaire forwarded by the Technology Utilization Office) to the innovator's management should be carefully prepared to assure that significant innovations are recognized and proper justifications prepared for consideration by the Board.

Innovations do not necessarily need to be technical in nature but can include any item which has merit or utility, including computer programs. Assistance in reporting and preparing innovations for publication can be secured by contacting the Technology Utilization Office.

## Open Season Nov. 15-30

A Federal Employees Health Benefits Program open season will be held November 15-30, 1976. Under open season regulations, any eligible employee who is not currently registered may enroll, and an enrolled employee may change from one plan or option to another, or from self only to self and family, or a combination of these. Those employees who do not wish to make a change in current enrollment need take no action during this open season.

Distribution of open season literature will be made through administrative offices prior to November 15. This year each employee will receive an open season instruction pamphlet, a list of premium rates for all plans, and brochures for the Government-wide Indemnity Benefit Plan (Aetna), the Government-wide Service Benefit Plan (Blue Cross-Blue Shield) and Kaiser Foundation Health Plan, Northern California Region.

Members of employee organizations, whether or not they are currently enrolled in the organization's health plan, will receive an appropriate brochure, by mail, directly from the Commission. Brochures on the following employee organization plans will be available to all employees upon request, through administrative offices:

- AFGE Health Benefit Plan
- Alliance Health Benefit Plan
- American Postal Workers Union Plan
- Government Employees Hospital Association Benefit Plan
- Mail Handlers Benefit Plan
- National Association of Letter Carriers Health Benefit Plan

Employees wishing to enroll or change their enrollment must complete a Health Benefits Registration Form (Standard Form 2809). These forms are available from the Training Office, Bldg. 241, Room 138, extension 5623, and must be complete and submitted to that office prior to the close of business on the last working day in November. We ask your assistance in making desired changes as early as possible in the open season.

New enrollments and changes in current enrollments elected during the open season will normally become effective January, i.e. first day of the first pay period, 1977.

## NASA battery study

Space technology applied to a nickel-zinc battery may eventually help reduce this nation's petroleum consumption.

Recent tests conducted by Lewis Research Center demonstrate that nickel-zinc batteries are able to provide almost twice the mileage range of conventional lead-acid batteries, therefore making them extremely desirable for use in electric vehicles.

It is expected that a properly designed four-passenger electric car would have a maximum daily range of 60 miles using conventional lead-acid batteries. (Continued on Page 2)



# Outstanding ARC employees win annual Hdqs. honor awards

Numerous honor awards have just been announced by NASA Headquarters. Ames once again has an outstanding number of personnel represented in the award recipients. Here is a summary of the award winners:

HOWARD K. LARSON, Chief of the Entry Technology Branch, has received the NASA Exceptional Service Medal "for outstanding technical contributions and direction to the successful development of reusable thermal protection systems permitting repeated atmospheric entry of reusable space vehicles. These developments are of fundamental importance to the economical utilization of space."

LEWIS HUGHES, Chief of the Health and Safety Office, will accept the NASA Medal for Exceptional Service "for his exceptional achievement in organizing and directing the Health and Safety Program of the Ames Research Center. Under his leadership a new awareness toward health and safety has been developed within the Center."

HOWARD E. GOLDSTEIN, Head, Thermal Protection Materials Section, Thermo- and Gas-Dynamics Division, will receive the NASA Exceptional Scientific Achievement Medal "for development of a reaction cured glass coating having the required waterproofing, durability, and optical properties for use on high-temperature reusable surface insulation thermal protection systems for manned atmospheric entry vehicles. This coating has been selected for use on the Space Shuttle Orbiter heat shield."

JAMES B. POLLACK, Space Scientist within the Theoretical Planetary Studies Branch, is also recognized with a NASA Exceptional Scientific Achievement Medal Award for "his exceptional contribution to Planetary Sciences through the development of models of planetary atmospheres and planetary evolution and through the tests and verification of these models by means of laboratory, airborne and spaceborne experiments."

RICHARD C. SIMMONDS (MAJOR), Flights Experiments Office, will receive the NASA Exceptional Service Medal "in recognition of his outstanding accomplishments as Manager, for ARC, of the joint US/USSR Biological Satellite Project under which 10 American experiments were flown successfully on the Soviet Kosmos 782 flight in late 1975. Under his dedicated management, significant scientific results were obtained which have furthered our understanding of biological processes in space and which have benefitted international cooperation."

SHERWOOD CHANG, Research Chemist in the Extraterrestrial Biology Division, won a NASA Exceptional Scientific Achievement Medal "for outstanding contributions to understanding the origin and evolution of organic compounds and light elements in meteorites and lunar samples, and for essential contributions to the long-term protection of the lunar sample collection as a member of the Lunar Sample Analysis Planning Team and its Facilities Subcommittee."

LEONARD ROBERTS, Director of Aeronautics and Flights Systems Directorate, will receive the Distinguished Service Medal as nominated by Headquarters. He is also recognized with a NASA Group Achievement Award for his work on the "Outlook for Aeronautics" team which he chaired. The membership was drawn from the NASA research centers, Headquarters, DOT, and DOD. RICHARD L. KURKOWSKI and MARK H. WATERS also served on the team from Ames. Their citation will read, "for outstanding accomplishments over a period from 1974 through early 1976, during which the diverse views of several hundred leaders in the aeronautical community - in industry, national and local government, and universities - were obtained, analyzed, interpreted, and integrated with in-house study results to form a rational view of the nation's future in aeronautics, the technology required to support future development, and the role of NASA in meeting the challenge."

The KUIPER AIRBORNE OBSERVATORY TEAM also won a NASA Group Achievement Award "in recognition of the dedication and expertise brought to the design, development and operation of the Kuiper Airborne Observatory and in appreciation of the substantial contribution of this Observatory to the science of infrared astronomy." The following are the team members: Robert M. Cameron, Alan L. Campbell, Robert H. Davidson, Lloyd E. Domeier, Robert W. Eglington, Edwin F. Erickson, Charlton M. Gillespie, Jr., Jerry H. Hirata, Ben Horita, Bruce E. Kelley, John W. Kroupa, James F. Ladner, James L. Martin, James O. McClenahan, Robert E. Mobley, Donald M. Oishi, Donald L. Olson, Milo D. Reisner, Wallace G. Stahl, Robert B. Tinkey, and Edwin R. Vernon.

The REACTION CURED GLASS COATING DEVELOPMENT TEAM also won a NASA Group Achievement Award "in recognition of group achievement in developing, demonstrating and scaling up for manufacturing the Reaction Cured Glass Coating for the silica Reusable Surface Insulation heat shield to be used on the Space Shuttle Orbiter. The Ames individuals on the team are: Howard E. Goldstein, Frank J. Centolanzi, Victor W. Katvala, Howard K. Larson, Ernest E. Porter, Marnell Smith, and David A. Stewart."

## White collar pay table

Federal Civilian Salaries Effective Oct. 1, 1976

GS-	1	2	3	4	5	6	7	8	9	10
1	\$ 5,810	\$ 6,004	\$ 6,198	\$ 6,392	\$ 6,586	\$ 6,780	\$ 6,974	\$ 7,168	\$ 7,362	\$ 7,556
2	6,572	6,791	7,010	7,229	7,448	7,667	7,886	8,105	8,324	8,543
3	7,408	7,655	7,902	8,149	8,396	8,643	8,890	9,137	9,384	9,631
4	8,316	8,593	8,870	9,147	9,424	9,701	9,978	10,255	10,532	10,809
5	9,303	9,613	9,923	10,233	10,543	10,853	11,163	11,473	11,783	12,093
6	10,370	10,716	11,062	11,408	11,754	12,100	12,446	12,792	13,138	13,484
7	11,523	11,907	12,291	12,675	13,059	13,443	13,827	14,211	14,595	14,979
8	12,763	13,188	13,613	14,038	14,463	14,888	15,313	15,738	16,163	16,588
9	14,097	14,567	15,037	15,507	15,977	16,447	16,917	17,387	17,857	18,327
10	15,524	16,041	16,558	17,075	17,592	18,109	18,626	19,143	19,660	20,177
11	17,056	17,625	18,194	18,763	19,332	19,901	20,470	21,039	21,608	22,177
12	20,442	21,123	21,804	22,485	23,166	23,847	24,528	25,209	25,890	26,571
13	24,308	25,118	25,928	26,738	27,548	28,358	29,168	29,978	30,788	31,598
14	28,725	29,683	30,641	31,599	32,557	33,515	34,473	35,431	36,389	37,347
15	33,789	34,915	36,041	37,167	38,293	39,419	40,545*	41,671*	42,797*	43,923*
16	39,629*	40,950*	42,271*	43,592*	44,913*	46,234*	47,555*	48,876*	50,197*	
17	46,423*	47,970*	49,517*	51,064*	52,611*					
18	54,410*									

\*The rate of basic pay for employees at these rates would be limited by section 5308 of title 5 of the United States Code to the rate for level V of the Executive Schedule which, under this adjustment, would become \$39,600.

## Space Suits

The Hamilton Standard Division of United Technologies, Inc., of Windsor Locks, Conn., has been selected by NASA for negotiations leading to the award of a contract for the development and production of space suits to be used by men and women during Space Shuttle flights.

The contractor's proposed cost of the basic cost-plus-award fee contract is about \$15 million through September 1980.

The suit will provide Space Shuttle crew members with protection and life support while they work outside the Shuttle in Earth orbit. An "adjustable fit" will be a feature of the suits compared to earlier versions that were custom-made for individual astronauts.

To be manufactured in small, medium and large sizes, the suits will fit candidates from 152 cm (5 ft) to 193 cm (6 ft 4 in.), the range of heights listed recently in a NASA announcement for Shuttle candidates.

The suit system consists of a basic suit and a support system that includes breathing atmosphere and cooling components. The life support backpack is an integral part of the suit. (See *NASA Activities* for May 1976.)

Technical direction of the contract is by the Johnson Space Center.

## Bonds pay 6%

The Treasury Department has announced a new schedule of interest accruals for United States Savings Bonds, Series E, bearing the issue date of September 1, 1976, or thereafter. The bonds mature in 5 years and the investment yield (interest) on a Series E bond will be approximately 6 percent per annum, compounded semiannually, if the bond is held to maturity, but the yield will be less if the bond is redeemed prior thereto. A bond bearing the issue date of September 1, 1976, or thereafter, beginning in the third month from such issue date, will increase in redemption value on the first day of each month up to and including the thirtieth month from issue date so as to provide for such period an investment yield of no less than 4 percentum per annum, compounded semiannually. Thereafter, its redemption value will increase at the beginning of each successive half-year period. The interest will be paid as part of the redemption value.

All bonds already in an extended maturity period also yield 6 percent per annum.

## Batteries

(Continued from Page 1)

Nickel-zinc batteries are able to provide twice that range at 120 miles per day and would be able to meet the needs of 95% of the nation's drivers for a full service urban vehicle.

A sample nickel-zinc battery was put together by the Lewis Center using cells fabricated by two industrial contractors. The cells feature an inorganic separator adapted from space battery technology which promises long life and high performance.

Engineers installed the battery in an Otis P-500 utility van, using only the battery space available in the vehicle and a battery weight equivalent to the conventional lead-acid battery. Tests performed on a test track showed that the nickel-zinc battery delivered almost twice as many stop and go driving cycles per charge as the lead-acid battery (190 vs 99). At a constant speed of 20 mph, the nickel-zinc battery ran the delivery vehicle 54.9 miles while the lead-acid battery yielded only 29.4 miles.



# Federal Employees Seminar Week

"... to form a more perfect union"

This is the theme of the 2nd annual Federal Employees Seminar Week sponsored by the Women's Program Committee. This concept of unity will be developed in the various seminars and programs which will begin on November 9th with a lunch at the Moffett Field Officers Club. Dr. Mark will welcome the staff and the guest speakers - Mayor Helen Trusell of Livermore and Lynne Joiner, the Anchorwoman on Channel 5's KPIX News program. These women have achieved prominence and recognition in their fields and will share with us the difficulties, challenges and rewards of succeeding in this one world.

The successive seminars have been scheduled over a 2-week period to encourage maximum participation of all staff members at all events. Thursday, November 11 - "Communication Seminar for Managers" will be led by Ted Long, a representative from "EST." This group has formulated methods which are novel and sometimes controversial. Ames managers will be given prior consideration in the

registration, which is limited, but all interested employees are encouraged to register.

Friday, November 12 - "Women in Management" led by Marcie Smith, Manager of the Program Development Office, and a panel of women managers at Ames, will explore management with the objective of attaining it.

Wednesday, November 17 - "Latch on to Tomorrow" with Vera Buescher and a Team from CSC will demonstrate what it takes to make it in this almost exclusively women's world of clerical and secretarial expertise.

Friday, Nov. 19 - "Federal Women's Program and the AA Plan" will open the book on what its all about, why and how under the direction of Annette Laboy.

And to top off this series - a HAPPY HOUR complete with hors d'oeuvres and SURPRISE entertainment, all at 4:30 in the cafeteria.

For a revealing, enlightening and exciting interlude in your work-a-day life unite and enjoy these seminars.

## FEDERAL EMPLOYEES' SEMINARS

"... to form a more perfect Union"

November 9 11:30 a.m.	Luncheon at the Officers Club Dr. Mark will introduce our Keynote Speakers - Helen Tirsell, Mayor of Livermore Lynne Joiner, KPIX News
November 11 8:30 a.m. - 4:00 p.m. N-245 Auditorium	"Communication Seminar for Managers" Sponsored by: est Leader: Ted Long
November 12 1:30 p.m. - 4:00 p.m. N-245 Auditorium	"Women in Management" Leader: Marcie Smith Speakers: Joan Danellis, Cindy Smith, Sarah Ogata, Sue Norman, Betty Berkstresser
November 17 1. 10:30 a.m. - 11:30 a.m. 2. 1:30 p.m. - 2:30 p.m. N-245 Auditorium	"Special Seminar for Secretaries - LATCH ON TO TOMORROW" Civil Service Commission Speakers Topics include: Goal Setting, Career Advancement, etc.
November 19 9:00 a.m. - 11:00 a.m. N-245 Auditorium	"Federal Women's Program - Affirmative Action Plan" Leader: Annette Laboy
4:30 p.m. Cafeteria	ARA Happy Hour - Hors d'oeuvres and Entertainment \$1.00

## AHS address by Col. Crouch

Colonel William E. Crouch, Chief, Aviation Systems Division, U.S. Army, will present an up-to-date review of basic research and development in Army aviation and the status of major aircraft development programs before members of the American Helicopter Society at the Officers Club, Fort Ord, Friday, November 19 at 8 p.m.

The Colonel will show films and slides to illustrate his discussion of the Utility Tactical Transport Aircraft System (UTTAS), the Advanced Attack Helicopter (AAH), and the Advanced Scout Helicopter (ASH).

Members and nonmembers are invited to the event which has been scheduled at Fort Ord to encourage the participation of AHS Monterey Bay Area Chapter personnel with an interest in the future of Army aviation.

Reservations must be made by November 5. Call Bob Stroub, (415) 965-5043, NASA Ames Research Center, MS 247-1. Members wishing to stay overnight should call Lt. Col. James Brown, NASA Ames, (415) 965-5020, for more information.

## Golf

The Annual Directors Cup Tournament was held at the beautiful Ridgemark Golf Course in Hollister on October 16, 1976. The cup was won by Bill Ross with a net round of 65. Co-chairmen Larry Hochstein and Jack Lee report the following "Point Par" winners:

First Flight: 1-A. Petretti, 2-R. Hedlund, 3-L. McCulley, 4-Tie between J. Martin and J. Mul-kern.  
Second Flight: 1-L. Hochstein, 2-M. Radovich, 3-P. Quattrone, 4-H. Mathews.  
Third Flight: 1-B. Ross, 2-R. Denison, 3-R. Richardson, 4-D. Davis.  
Fourth Flight: 1-E. Hampel, 2-R. Dowell, 3-C. McCloskey, 4-S. Johnson.

## Thank you

Dear Friends:

Our very sincere thanks for the beautiful chrysanthemum plant we received from the Division in remembrance of my mother. Your thoughtfulness is especially appreciated.

Liz Marquardt and Family

## ARA ACTIVITIES

**Discount Cards for Holiday Inns** - Holiday Inn is offering discount rates at their hotels in Phoenix, Tucson, Las Vegas, Reno and San Francisco. Rates and the time period applicable vary for each city. Details are shown on the discount cards and can be picked up at the ARA Store, Tuesdays and Thursdays in the cafeteria from 12:00 to 12:45 p.m.

**Results of Jogging Competition** - The 2nd NASA Inter-Center Postal Jogging Competition was held at Ames October 21, 1976 with 57 entries running the two-mile course. The fastest times were turned in by the men's group, age 30 to 39 with Dave Nixon's (NRC Fellow) time of 11:06; Goetz Klopfer's (NASA/ARC) time of 11:09; and Bruce Castle's (NASA/ARC) time of 11:26. The 29 and under men's group fastest time was 11:37 turned in by John Bouldt (NASA/ARC); the 40 to 49 men's age group fastest time was 12:19 from Bob McCracken (NASA/ARC) and the 50 and over men's age group fastest time was 13:49 by Bruce Kelley (NASA/ARC). Women's fastest times were posted by Donna Hafeman (Contractor) at 15:39 in her age group and by Gay Castle (New VIEW Student) at 16:07 in the second age grouping. The results from other Centers, and Ames' standing will be announced in the next Astrogram.

**Spotlight on Ames Ski Club** - The Ames Ski Club was founded in 1968 for the purpose of bringing together fellow workers who enjoy the outdoors and especially the sport of downhill skiing. Cross-country skiers are welcome, but in general activities are planned around the wants and desires of the downhill skier. The Club's ski trips are generally tailored to the unattached person or couples who wish to leave the driving to a bus driver and enjoy the luxury of a weekend of skiing in the Tahoe area and the attendant comforts the area provides.

Each year, the Club sponsors a BIG trip out-of-state. This year's trip will be to Vail, Colorado leaving February 26, 1977 and returning March 5, 1977 for six days of skiing in Colorado powder. The total trip cost, including air and ground transportation, lodging, and ski lift tickets, is \$358.00. A deposit to reserve space is required by November 24th. For further details on this trip, call Kathy Cossey, Ext. 5172.

In addition to this out-of-state trip, the Club will be offering weekend trips to Squaw Valley, Alpine Meadows, Northstar, Heavenly Valley, and Kirkwood contingent on snow and weather conditions. If you would like to join the Ames Ski Club for a memorable weekend in the snow, call Denise Rochette, Ext. 5091; Jack Tunnel, Ext. 5262; or Ralph Maines, Ext. 5589, and get your name on the Ames Ski Club mailing list - at no charge.

**Fire and Smoke Detectors** - Samples of fire and smoke detectors will be available to see in ARA Store beginning next week. Order forms will be available at the ARA Store. The detectors will be delivered directly to the individual's home. Contact the Safety Office for further information.

26 Nov - 10 Dec - SUN PRINCESS CRUISE - MEXICAN RIVIERA. Family Bonanza on 26 November cruise (up to 2 children under age 16 and members of immediate family are FREE). Contact The Travel Company, (408) 732-0199.

The Las Vegas trip scheduled for 19-21 November has been cancelled due to lack of interest.

## Scuba Club

The Ames Scuba Club will meet on 10 November 1976 in the Ames Cafeteria executive dining room. The meeting will begin at 12:45 and be over by 1:30.



## Ames Promotion Plan vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
77-8	Accounting Technician	GS-6/7	AFB	Centerwide	11/12/76
77-9	Purchasing Agent	GS-5/6/7	ASG	Centerwide & Outside	11/12/76
77-10	Voucher Examiner	GS-4/5	AFG	Centerwide & Outside	11/12/76
77-11	Personnel Clerk (Typing) or Clerk Typist	GS-4/5 GS-3/4	APM "	Centerwide & Outside " "	11/12/76 "
*77-12	Model Maker	WG-14	RSM	Tech. Serv. Div.	4/30/77
*77-13	Model Maker	WG-14	RSS	Tech. Serv. Div.	4/30/77
*77-14	Model Maker	WG-14	RSC	Tech. Serv. Div.	4/30/77
*77-15	Numerical Control Machine Tool Programmer	WG-12/14	RSM	Tech. Serv. Div.	4/30/77
*77-16	Numerical Control Machine Tool Programmer	WG-15	RSM	Tech. Serv. Div.	4/30/77
*77-17	Research Instrument Maker Instrument Maker	WG-12/ WG-14	RSM	Tech. Serv. Div.	4/30/77
*77-18	Instrument Maker	WG-15	RSM	Tech. Serv. Div.	4/30/77
*77-19	Security Clerk (Typing) or Clerk Typist	GS-4/5 GS-3/4	APS "	Centerwide & Outside " "	11/12/76 "
*77-20	Personnel Clerk/Staffing Assistant	GS-5/6	APM	Centerwide & Outside	11/12/76
*77-21	Aerospace Engineer (AST, Control and Guidance Systems)	GS-12/13	FSN	Centerwide & Outside	11/12/76

TO APPLY: Call Extension 5599 or 5600

\*Please note above vacancies are continuously open until 4/30/77. Selections will be made as need for higher level duties arise. It is advantageous, however, to apply as soon as possible.

## MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
77-146T	Secretary (Typing)	FOS	Angie St. Germaine
76-151T	Procurement Clerk (Typing) or Clerk-Typist	AS	Bonnie Theis Vera Conrad (Outside Candidate) Jeraldine Daus (Outside Candidate)
76-152T	Procurement Clerk (Typing)	AS	Rosemary Buchanan
76-153T	Contract Specialist	ASR	Tommie Smith, Jr. Jessie Mosier
77-1	Teller	AFP	Patricia Gilchrist
77-3	Secretary (Typing) or (Stenography)	STP	Roxanna Woodworth

Want ads  
Transportation

'69 Cutlass, 2-door, PB, PS, AT, \$1000 or offer. After 6:00 p.m. 379-8810.

Honda '70 for sale, 1300 miles, 7 months old, exc. cond. \$280, helmet included. Charlene, 948-8073.

'74 VW Bug, 17,000 miles. \$2500. 241-9824, Art Morris.

'75 Yamaha, 250 MX monoshock, like new. Must see extras. Make offer, Gary Parola, 294-9892.

'74 Travette Cab-Over camper for American short bed trucks. Many extras. \$1000 or offer. 264-7937.

'69 Piper Arrow 200. Full IFR, coupled autopilot, NDH. 2650 TTA&E, 1650 SMO. A great flying airplane at wholesale: \$15,750. 941-8579, 377-9345, or 967-0888 eves/weekends.

'66 Dodge Dart, \$500. W. E. Pearson (408)354-8915.

## Housing

Share ski rental - house at Lake Forest, Tahoe City. Sleeps 22 comfortably, on good access road. \$150 per person, Thanksgiving through April. Contact Linda Jahnke, 969-5979.

Lovely 2 br, 2 bth condominium. Pool, patio off living room, fireplace, some furniture if desired, inside parking and storage, 10 min. from ARC in Mountain View, on beautiful quiet cul-de-sac. Adults and pets O.K. \$395/mo. Call 967-5660.

SKI THIS WINTER. Join a group, lease 5 bedroom, 2 bath ski lodge at Lake Tahoe. 5 months lease. Call David Raithel, 739-3858.

FOR LEASE: 1 year or more from Jan. 1, 1977. \$725/month, includes gardener. Spacious 5 bdrm family home, completely furnished, including linens. Excellent neighborhood. Green Gables schools. Proximity to park and Community Center. FAMILIES ONLY. For appointment: Wright and Co., 321-5800; Phyllis Bridgeman, 493-3384 (evenings).

SKI CABIN: Two story cabin in Tahoe City (near Sunnyside Lodge) sleeps 14 easily. Desire to share it and its expenses with 2 other families, couples, or singles for the winter season from Thanksgiving through April. Cost: \$150/adult + \$50/child. Contact Shel Smith at 733-8922 or 965-6330.

HOUSE FOR RENT: New 4-bdrm, 2-bth, family room, living room, 2-car garage, \$450/month. 374-9035.

## Miscellaneous

Siberian Husky pups for sale. AKC reg. 8 wks old. 251-0239 after 5.

FOR SALE: Tire - low mileage Atlas Plycron blackwall 6:95-14 in excellent condition. \$5.00. Contact D. Dugan, 253-8352.

Sony tape recorder '250A'. Reel to reel. Good condition. \$50. Call 867-5728 after 5:30 p.m.

Snow skis. Fischer Riesen-Slalom 210 cm. Good condition. \$30. Call 867-5728 after 5:30 p.m.

Door. (Used 2 mos.) 2'8" by 6'8", Birch, solid core, pre-bored. \$20. Call 867-5728 after 5:30 p.m.

WANTED: Boy's 20 in. bicycle in good condition. Bruce Smith, 253-1515.

FOR SALE: Area rug, green octagon, 8½ ft, with fringe. 100% cotton Wunda-Weave. \$35. Call 243-5389.

Sarah Coventry jewelry for sale. For information, call Eddy at 732-3927.

Washer and Dryer for sale. Compact size, stackable. Ideal for apartment or condominium. No special plumbing or wiring needed. Look and work like new. Green. When new, \$425, will sell for \$250. Call Dennis Cunningham, 255-7408.

Sears Silvertone stereo console. Contemporary style. AM/FM/FM stereo, built in turntable. \$150 or best offer. Smith Corona Figurematic electric adding machine. 10-key with repeat key. Adds, subtracts, multiplies. Like new. \$45 or best offer. Call Jim, 246-5286.

Drapes (pair) 54x115, custom made, brand new in beautiful white brocade, \$65. Call 321-1858.

Norelco (men's) shaver, good cond. \$10. Call 321-1858.

Recording tape, Scotch Dyna. series, No. 203. ¼ x 1800" reel, never used, \$5. 321-1858.

FOR SALE: Oak bunk beds with mattresses. Can be used as twin beds. 259-6069.

FOR SALE: Ebonite B-flat clarinet with carrying case. \$40. 323-7070.

FOR SALE: Sewing machine, working condition. \$35; B&W TV \$10. 964-5867.

WANTED: Ride from San Francisco to Ames only for 8 a.m. to 4:30 p.m. shift. Contact G. Lyle, 6361.

"THE GREAT AMERICAN SMOKEOUT"  
November 18, 1976 - A Day to Stop Smoking  
American Cancer Society

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Ames Research Center  
Moffett Field, California 94035  
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# The Astrogram

VOLUME XIX

NUMBER 3

November 18, 1976

## H. Julian Allen Award

Dr. Mark, Center Director has announced that it is time to begin considering papers for nomination for the 1977 H. Julian Allen Award to be announced January 14, 1977. Each Division Chief should submit a maximum of one paper accompanied by a brief statement by the Division Chief stating the developments in the field of research supporting the impact of the paper. Nominations should be submitted to the Chairman of the Selection Committee, George A. Rathert, Jr., by December 10, 1976. If possible, enclose twelve copies of the paper.

"The competition is for the best scientific or engineering paper written by an Ames researcher and is open to the Army Aeronautical Research Laboratory, National Research Council Postdoctoral Associates, and other detailees. The senior author must be from Ames in this sense. We also ask that the major part of the work have been done at Ames and that the significance or major impact of the paper have been realized within the last two years. Please do not resubmit papers which have already been considered twice unless there are exceptional circumstances concerning the paper's impact. The Selection Committee reserves the right to ask Division Chiefs for a list of all the papers considered.

"Papers will again be judged by the following criteria:

1. Importance of problem
2. Degree of contribution to the solution of the problem
3. Element of creative innovation
4. Impact on general field of research
5. Degree of contribution by the individual(s)

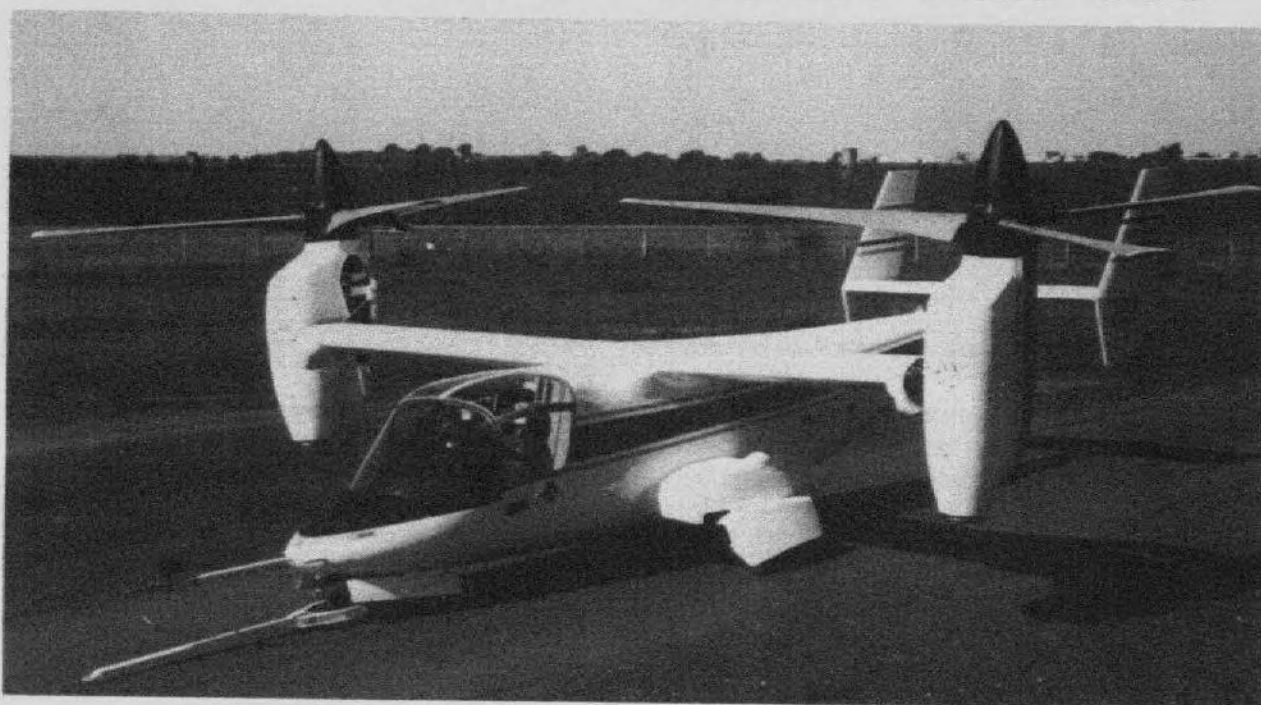
An honorarium of \$1,000 will be shared by the authors."

## Annual children's Christmas party

Preparations are underway for a Christmas party for the children of Ames employees. The success of this annual event at Ames for over 25 years has been due to the efforts of many people. This year, more than ever before, the Ames Recreation Association will depend heavily on help from as many of the staff as possible.

Although the ARA sets aside a small portion of its annual budget for the party, this pays only a part of the total cost. The major portion of this cost is carried by ticket subscriptions. The tickets sell for \$1.00 each or three for \$2.50. Each ticket, which is required for entrance to the party by an adult, also entitles the purchaser to a chance at many cash prizes. The big prize this year will be \$225 cash. I am requesting that each Division, Branch, and Section appoint a representative to devote some time and effort to the sale of these subscription tickets. A meeting of all representatives was held in the Cafeteria on Friday, October 29, from 2:30-3:00 p.m. to distribute tickets and answer any questions.

## Tilt-rotor research aircraft rolls out



Bell Helicopter Textron's XV-15 tilt-rotor research aircraft. This is the first of two such aircraft being built under a joint NASA/U.S. Army contract. The XV-15 combines features of both helicopters and conventional airplanes.

A new research aircraft, which combines features of both helicopters and conventional airplanes, recently rolled out in ceremonies Oct. 22. ARC and the Army's Air Mobility Research and Development Laboratory have scheduled a two-year flight testing program for the airplane.

The XV-15 tilt rotor aircraft was built for a joint NASA-U.S. Army research program by Bell

Helicopter Textron, Ft. Worth, Texas, where rollout ceremonies took place.

The XV-15 is a proof-of-concept research aircraft. It is capable of developing and demonstrating tilt rotor concept technology, assessing its potential for noise reduction, reduced takeoff and landing area requirements and the effectiveness of combining

(Continued on Page 2)

## Top NASA management visit ARC



Ike Gillam, Director for Space Shuttle Operations, Ann Bradley, Director for Administration, and Gerry Griffin, Deputy Director DFRC, visited Ames on November 1 and 2 for a familiarization tour of Ames. They had previously visited Langley and Lewis. Ames Jack Boyd (far right) orients group.

They were given brief reviews of the Center programs in Astronautics, Life Sciences, Aeronautics, and Research Support as well as facility tours. In addition, Ms. Bradley also had detailed discussion with personnel in the Administration Directorate.



## Galileo II on aerosol/aircraft atmosphere pollution mission



Scientists aboard Ames' airborne research laboratory, the Galileo II, are flying nearly from pole-to-pole in a three-week north-south journey spanning the central Pacific. They will study two types of atmosphere pollution — that from aircraft engines and that from aerosol sprays, suspected of depleting the Earth's ozone layer. The expedition left October 28.

The much-modified Galileo II Convair 990 flying laboratory will carry eight experiment teams, 18 scientists, from eight institutions. Part of them will be checking on changes in the upper atmosphere caused by exhaust gases from jet aircraft engines. A second group of scientists will measure the effects on the upper atmosphere of fluorocarbons and halocarbon gases from aerosol sprays and other sources.

The flights will last from Thursday, October 28 until Friday, November 19. Galileo II first flew from Ames to Fairbanks, Alaska where flights were made to the north of the Alaskan landmass over the Arctic Ocean, up to 75° north latitude. After Alaskan operations, Galileo II flew south over the Pacific to Honolulu, and then on Wednesday, November 3 to Pago Pago, American Samoa. On Friday, November 5, the expedition went to Melbourne, Australia; and on Wednesday, November 10 to Christchurch, in southern New Zealand. From there it flew halfway to McMurdo Sound, Antarctica, down to 65° south latitude. Special flights will be made from Honolulu and from Melbourne.

The globe-spanning experiments from far-north to far-south were intended to collect data at many latitudes and in both northern and southern hemispheres to see if there are changes in upper atmosphere composition and pollutants with changes in latitude, and between hemispheres. Galileo II operates at between 35,000 and 40,000 feet.

Observations near the Hawaiian Islands will be coordinated with similar measurements made by Ames' high altitude Earth Resources Survey Aircraft (U-2), operating at around 60,000 feet.

The survey of aircraft engine pollutants is a four-year cooperative effort between Ames and Lewis Research Center aboard Galileo II. Experiment packages similar to those on Galileo are carried by wide-body jet transports of Pan American, United, and Qantas Airlines. The Galileo II flights are aimed at making measurements over a broad geographical range, in areas where commercial aircraft don't normally fly. Local flights into such remote areas will be made from Fairbanks,

Honolulu, and Melbourne. Galileo II also will carry an advanced experiment package now in testing stages for this work.

Studies of aerosol spray pollution by experimenters are part of a broader program by NASA and other agencies to inventory the constituents of the upper atmosphere in a nonpolluted state.

With this data in hand, changes from year to year in proportions of ozone, fluorocarbons, water vapor, carbon monoxide, and other compounds can be measured. Effects of these changes on the ozone layer and upper atmosphere mechanisms can be determined, as well as whether the changes are man-made.

The Galileo II measurements for both sets of experiments will be coordinated with similar measurements by National Oceanographic and Atmospheric Administration (NOAA) stations at Point Barrow, Alaska; Mauna Loa, Hawaii; and American Samoa; plus stations of the Australian Department of Science, the Commonwealth Scientific and Industrial Research Organization (CSIRO), and the Bureau of Meteorology in Australia and the New Zealand Meteorological Service.

## Questions about Aeronautics and Space

NASA Headquarters has issued another pamphlet in the "penny flyer" series. This one is entitled "Questions about Aeronautics and Space." Single or multiple copies may be requested, in writing, by dropping a note to: Audio-Visual Facility, c/o mail stop 204-12.

A sample of some of the questions and answers included in the pamphlet are:

### Could NASA help solve the nation's energy problems?

NASA is active in a variety of energy research and development efforts where technology developed for space and aeronautics is finding important and promising applications. Specific projects include solar heating and cooling of homes and office buildings; windmill energy systems; improving energy efficiency of automobiles and trucks; identifying energy resources on Earth with spacecraft-borne instruments; fuel conservation in civil air transport; and general energy and environmental conservation techniques and alternatives.

## XV-15

(Continued from Page 1)

helicopter utility with the longer range and higher speed characteristic of conventional airplanes.

Both military and civilian aircraft could benefit markedly from such a design if it proves feasible.

The rollout ceremony marks a major milestone in the joint NASA-Army tilt rotor program. A number of U.S. companies have participated in the effort. Major subcontractors on the XV-15 include: Rockwell International, Tulsa Division (fuselage and empennage); AVCO-Lycoming, Stratford, Conn. (engines); Calspan Corp., Buffalo, N.Y. (automatic flight control system); and Steel Products Engineering Co., Springfield, Ohio (conversion and flap drive systems).

Aircraft number one will undergo ground and hover testing, and then be shipped to Ames Research Center for extensive testing in the 40x80-foot wind tunnel. Initial envelope expansion flight testing will occur at Bell Arlington Facility using the number two aircraft starting in the fall of 1977.

The XV-15 design is a 42-foot-long, 32-foot wind span aircraft incorporating wingtip mounted engines, transmissions and 25-foot prop rotors which tilt from a helicopter position for hover, vertical takeoffs and landings, to a horizontal position for forward flight. In the airplane mode, the aircraft is capable of forward speeds in excess of 300 miles per hour. It is expected that the tilt rotor will operate with less noise than conventional helicopters or turboprop aircraft of comparable size.

The XV-15 will be used to investigate the application of tilt rotor technology to civil and military missions. Research flights will be conducted under a joint program by ARC and the U.S. Army's Air Mobility Research and Development Laboratory.

## George Lee tours China

George Lee, a member of the Thermophysics Facilities Branch, who also serves as the Chairperson of the Committee of EEO Counselor's, left on November 7th for a 23-day visit to the People's Republic of China. George is probably the first member of the Ames Research Center to visit the People's Republic. He will tour such world-famous cities as Peking, Soochow, Canton, and Kweilin.

For George, his visit to China will be an eye-opening experience as well as a sentimental journey. He left China as an infant and has never visited his land of birth until now.

### What about the Space Shuttle?

The Space Shuttle is a transportation system designed to carry out various missions in Earth orbit at a fraction of the cost of earlier systems. It consists of a large external fuel tank and reusable booster rockets for launch from Earth and an airplane-like, manned reusable orbiter for conducting space missions. As each mission is completed, the orbiter will be piloted back to an airstrip and be refurbished to fly again.

The manned Space Shuttle will carry and launch into orbit new unmanned spacecraft including communications, weather, and Earth observation satellites, and military and scientific satellites. It will have the capability to retrieve orbiting spacecraft for replacing experiments, servicing and/or repairing, and returning them to Earth. Also, the orbiter, with Spacelab installed, will have a capability for conducting month-long experiments and operations in space. The Shuttle's easy and routine access to space with Spacelab will enable physically fit scientists and engineers to personally supervise and check on their orbiting space experiments.



## Solar refrigerator

A solar powered refrigerator is being used to store vital medications for the Papago Indians living in Sil Nakya, Arizona. The refrigerator is part of a broad solar energy program sponsored by the Energy Research and Development Administration (ERDA).

The 185-watt solar cell system was recently installed at Sil Nakya by NASA's Lewis Research Center, Cleveland, Ohio, in cooperation with the Papago Tribal Council and the Indian Health Service, Office of Research and Development, Office of Environmental Health.

It is one of several applications planned as part of the NASA/ERDA Test and Applications Project to demonstrate the versatility and timeliness of photovoltaic (solar cell) power.

Sil Nakya is located on the Papago Indian Reservation in the Sonora Desert, 60 miles west of Tucson, Arizona. About 25 people live in the village which has no electricity.

Although the traditional Papago diet does not depend on foods requiring refrigeration, many of the people require medications which must be kept at low temperatures to preserve their effectiveness.

Sil Nakya villagers requiring medication previously had to travel 64 miles to and from the Indian Health Service Hospital at Sells, Arizona. The solar powered refrigerator will not only reduce the cost and hardship of obtaining these medications, but will also allow perishable foods to be kept on hand to improve villagers' diets.

The solar powered refrigerator is one of the first devices to be demonstrated under the NASA/ERDA Photovoltaic Test and Applications Project.

A standard sized commercial camper model, the refrigerator is powered by three panels of photovoltaic cells which convert sunlight into electrical energy. During daylight hours the electricity is used to run the refrigerator and to charge conventional automobile batteries located underneath the refrigerator. Batteries power the refrigerator at night and on overcast days.

This is the second NASA/ERDA solar powered refrigerator demonstration. Another unit was used last summer to keep perishable foods at a remote trail construction camp on Isle Royale National Park, Michigan.

Lewis Research Center is responsible for the Photovoltaic Test and Applications Project, a part of the National Photovoltaic Conversion Program directed by ERDA.

The Lewis Center has been engaged in transferring space-related solar cell technology to terrestrial applications since 1971. This work has included raising solar cell efficiency and reducing cell and array fabrication costs as well as demonstrating solar cell systems in various applications. Although solar cell arrays are still relatively high-priced items, the total life-cycle cost today of solar cell power systems for remote locations is considerably lower in many cases than the cost of fuel and transportation for alternate power sources.

## Open season reminder

Employees wishing to enroll or change their enrollment must complete a Health Benefits Registration Form (Standard Form 2809). These forms are available from the Training Office, Bldg. 241, Room 138, extension 5623, and must be complete and submitted to that office prior to the close of business on the last working day in November. We ask your assistance in making desired changes as early as possible in the open season.

New enrollments and changes in current enrollments elected during the open season will normally become effective January, i.e. first day of the first pay period, 1977.

## Aircraft turbulence warning now possible

A scientist with the National Oceanic and Atmospheric Administration (NOAA) has found a technique that may give airplane pilots up to 12 minutes warning of air turbulence ahead. The key to turbulence, according to Dr. Peter M. Kuhn of NOAA's Environmental Research Laboratories, is water vapor.

In tests aboard Ames' Galileo II, Dr. Kuhn has used an infrared radiometer — which measures water vapor by the radiation it emits — to predict turbulence with a reliability of 81 percent.

Clear air turbulence is thought to result from wave motions in the atmosphere, in shape much like those that break on the seashore. By experimenting with different infrared wavelengths, the Commerce Department scientist has been able to detect the breaking waves more than 60 miles (100 km) ahead of the plane.

Dr. Kuhn discovered the connection between water vapor and turbulence while making water vapor measurements aboard the National Aeronautics and Space Administration Ames Research Center Convair 990 aircraft last year.

Water vapor in the atmosphere emits infrared radiation, and Kuhn was measuring that quantity to help NASA scientists determine how much of the radiation they were investigating was from astronomical objects and how much from the Earth's atmosphere.

He noticed that sudden, drastic changes in the amount of water vapor were often followed within a few minutes by turbulence. To see if these fluctuations might be a reliable indicator of turbulence, the NOAA scientist compared his water

vapor readings with those from an instrument that had been installed on the plane to make accurate measurements of turbulence, and found a relationship.

Since that time, Dr. Kuhn has continued his investigation, with the radiometer installed in the plane's main wheel well, looking ahead at an angle of between 7.5 and 15 degrees above the horizontal.

In 45 encounters with clear air turbulence, the radiometer provided advance warning of from 4 to 12 minutes in 41 cases, while giving only six false alarms. Kuhn thinks it ultimately may be possible to predict the severity of the turbulence.

Dr. Kuhn believes the water vapor anomalies the radiometer detects are caused by the wave motions of turbulence, which thin the water vapor in one place and concentrate it elsewhere. The concentration of water vapor at the altitudes where the research aircraft normally cruises — over 40,000 feet (12,000 m) — is fairly constant. The turbulent wave motions shatter this placid picture, producing alternating dry and wet areas.

The atmospheric waves that cause turbulence, Kuhn explains, can be set up in two ways. Winds flowing over a mountain range may set up a standing wave above or in the lee of the mountains. Such lee waves cause frequent turbulence above the Rockies and occasional severe wind storms along the eastern slope of the range.

The other atmospheric condition creating such waves is strong vertical wind shear — a sudden shift in wind speed or direction with height. The friction between two adjacent streams of air causes turbulence.

## Products display van at Ames

The Van Dyke Valve and Fitting Company will be bringing their Product Display Van to Ames beginning Tuesday, November 30. The Van will display various types of Swagelok fittings. The Van Dyke Valve and Fitting Company supplies Ames with the types of high pressure fittings that the Ames High Pressure Safety Committee recommends. The Van will be on display at the following locations and times:

Date	Location	Time
November 30	Bldg. 245 (front)	9:00–11:00 a.m.
November 30	Bldg. 244 (back)	11:30–3:00
December 1	Bldg. 213 (front)	9:30–2:30
December 2	Bldg. 227 (front)	9:30–2:30
December 3	Bldg. 247 (front)	10:00–2:00

Further information may be obtained by calling the Training Office, extension 5622.

## Ames Fastpitch Softball Team



NASA Ames Championship Fastpitch Softball Team pictured left to right. Front row: Mike Ospring, Manager Bruce Ganzler, Mike Green. Standing, left to right: Jeff Hammill, Jim Myers, Fred Peters, Paul Soderman, and Bob Corbett. Missing from picture: George Alger, Steve Kanally, John Fetter, Roger Hedlund, Al Hopkins, and Larry Gary.



## Ames Merit Promotion Plan vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
77-22	Supervisory Contract Specialist	GS-13/14	ASA	Centerwide	11-29-76
77-23	Supervisory Contract Specialist	GS-13/14	ASF	Centerwide	11-29-76
77-24	Supervisory Contract Specialist	GS-13/14	ASL	Centerwide	11-29-76
77-25	Supervisory Contract Specialist	GS-13/14	ASR	Centerwide	11-29-76

TO APPLY: Call Extension 5599 or 5600

### MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
77-5	Secretary (Typing) Secretary (Stenography)	RQ	Cancelled

## Want ads

### Transportation

1975 1/2 HONDA 350: Like new, low mileage, for sale. Letting it go for \$650. Call Bob Burford, 593-1350.

For Sale: 1975 Harley Sporster, 1900 miles, Stock with custom paint & chrome. Call Chris Clark, 279-1207 after 5 p.m.

For Sale: Flying Club membership, Cessna 140, \$300. Resellable, M. Murphy 776-8509.

### Housing

Townhouse 3 bdrm, 2 1/2 bath, AEK, front & rear patio, attached 2 car garage, 2 1/2 years old, \$52,500. Santa Clara location. Call Gloria Hoeninghaus, 246-9379.

Furnished House for Rent: 8 mo. from Dec. 15. San Jose North Valley, 4 BR, 3 BA, FM RM, fruit trees, quiet cul-de-sac, water paid. \$425. 259-2256.

'73 AMC Amdo. 24,000 mi, PS, PB, A/C, AM/FM stereo, 4 DR. Phone 267-4825.

FOR RENT: 2 bdrm., 1 1/2 bath apartment in Sunnyvale. Available December 1st. Carpet, drapes, dishwasher, pool. Approximately 4 1/2 miles to Ames. Phone 245-2796 after 5 p.m.

### Miscellaneous

For Sale - Shredder - Bagger. Sears, 6 horsepower. Excellent condition, \$175. Call 948-5157.

For Sale - Tire G-78-14 UniRoyal Glas-Belt. 6-ply tread. 4-ply wall. White wall. New \$25. Call 948-5157.

FOR SALE: Siberian Husky Pups, AKC, now available. 251-0239 after 5 p.m.

13-ft Sailboat, Chrysler Lone Star, includes sails, main and jib, trailer, Vasona yard berth. \$900. Call 253-6249 after 5 p.m.

For Sale: River rocks, \$1/cu. ft. You haul. 493-1617 Palo Alto.

For Sale: English Bulldog Puppy, Male, AKC, Shots, 7 weeks old. \$300. 289-8789 (eves.)

Bassboat 16' Starcraft 6S Johnson, Electric motor, extras. Call Steve, 258-1675.

For Sale: Drum Set, Ludwig, Blue Sparkle, consists of bass, snare, floor tom, mounted tom, mounted cymbal, floor cymbal and stand, and Hi-Hat cymbal. Very good condition. \$325 or best offer. Phone: 739-6054.

Peterson baby stroller, good condition, weather cover, \$15, 739-4443.

SKI RENTAL - Only one space left in ski group. House at Lake Forest, Tahoe City on good access road, \$150. Linda Jahnke, 969-5979.

## ARA ACTIVITIES

**HAPPY HOURS** - Those who came to the October 29th Happy Hour were treated to a special surprise entertainment of belly dancing by some local outstanding talent. The ARA occasionally has the opportunity to present entertainment at Happy Hours without prior announcement. So support your local ARA and come to the Happy Hours. You never know what we'll surprise you with.

**November 19th Happy Hour** - "The Great Turkey Raffle." Tickets are 50 cents or 3 for \$1.00. Drawing will be held at November 19th Happy Hour. This Happy Hour will also conclude "Federal Employees Week" with hors d'oeuvres provided by Mr. Keith, our great cafeteria chef, and blue grass music provided by St. Jude's Infirmary Band. There will be a \$1.00 admission fee at the door.

**AMES ANNUAL CHILDREN'S CHRISTMAS PARTY** - This year the Children's Christmas Party will be on Saturday, December 11, in Bldg. 211. Free admission tickets for children 12 years and younger will be provided in advance by Barbara Fuller, Mail Stop 215-8. Deadline for requesting these tickets is December 7, 1976. Children without these tickets will be charged 50 cents at the door. Adults and children over 12 will be admitted with a subscription-affle ticket good for seven (7) cash prizes ranging from \$225 to \$25. These tickets are on sale in each Branch or Division, from any ARA Board Member and at the ARA Store Tuesdays and Thursdays, 12:00 to 12:45 p.m. Tickets are \$1.00 or 3 for \$2.50. This year the ARA is relying on ticket sales to meet the expenses of the Christmas Party. So your support is needed and appreciated.

### Golf

Co-chairmen Don Dust and Ron Denison report the following winners at the annual Turkey-Shoot Golf Tournament held at Delaveaga Golf Course on November 6, 1976:

First Flight: 1-J. Lee, 2-Tie between R. Ramos and O. Koontz, 4-R. Eddy, 5-D. Bannducci.

Second Flight: 1-J. Cayot, 2-Tie between C. Eddy and V. Oyama, 4-P. Quattrone, 5-P. Kutler.

Third Flight: 1-G. Falkenthal, 2-R. Denison, 3-B. Ross, 4-A. Joly, 5-A. Lopez.

Fourth Flight: 1-R. Oyama, 2-S. Tardio, 3-B. Quattrone, 4-Tie between E. Hampel and R. Sandoval.

### Ames Choral Group

Ames Choral Group rehearsal Dec. 6 to 9 upstairs in Bldg. 213. For information call Frank Cota, Ext. 5462, or Richard Pea, Ext. 5459. Instrumentalists welcome.

## The Astrogram

Room 142, Admin. Mgt. Building, Phone 965-5422

The Astrogram is an official publication of the Ames Research Center, National Aeronautics and Space Administration, Moffett Field, California, and is published bi-weekly in the interest of Ames employees.

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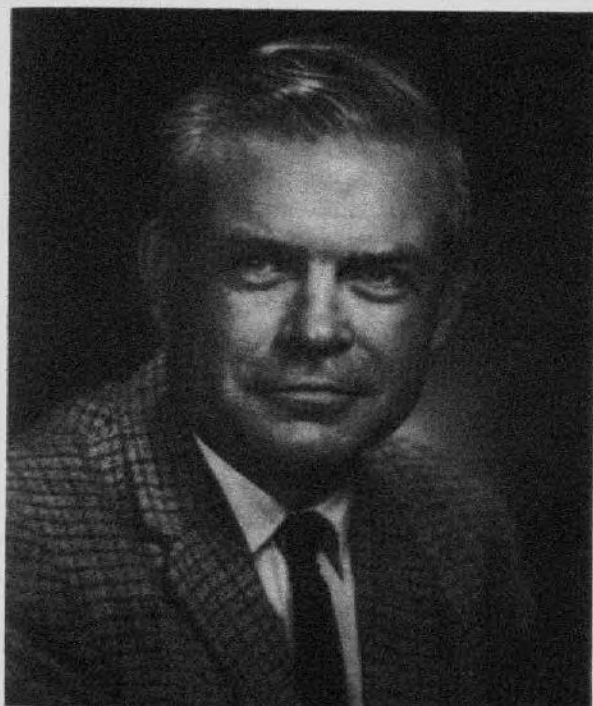
# The Astrogram

VOLUME XIX

NUMBER 4

December 2, 1976

## National Special Achievement Award to Hall



The National Civil Service League's Special Achievement Award was presented to Charles F. Hall, Pioneer Project at ceremonies held November 16 at the Smithsonian Institution's Museum of Natural History in Washington, D.C. This award is given annually to outstanding career civil servants and signals the recognition of excellence in the public service and the contribution of public service itself to the welfare of our nation.

The Pioneer Projects were started in late 1962 with Mr. Hall as the Project Manager. His managerial capabilities and his intense dedication to the Pioneer Mission series have been instrumental in achieving the success enjoyed by all of the Pioneer flight missions, in particular the Pioneer 10 mission to the planet Jupiter. His inexhaustible energy and devotion to his assigned responsibility have carried him through a distinguished 34-year career with NACA and NASA from aerodynamics research to the assignment as Project Manager of the highly successful Pioneer mission series.

In 1972, the Pioneer Project Office at Ames was selected to manage the Pioneer Venus project. Present plans call for the launch of two instrumented spacecraft in 1978. One will carry four probes which will impact on the Venusian surface and conduct scientific measurements during descent through the Venusian atmosphere. The second will be placed in orbit about Venus and conduct scientific measurements between 100 and 40,000 miles from the Venusian surface. Mr. Hall is manager of this project also.

## Affirmative Action notice

Copies of the Center's Affirmative Action Plan are available to any employee or group. Contact Carmen Lewis, EOP Office, ext. 5626, for your copy.

## Major milestone for QSRA



*A number of people have devoted a lot of time and energy on this model fabrication. Some of them include those pictured above. Kneeling are (l. to r.) Tony Billalba, Bob Bell, Harry D'Angelo, Alfredo Boissevain, Chuck Greco, and Herman Frankel. Standing to the left is Milt Alberry.*

A major milestone for the QSRA Project was accomplished on Monday, November 22, 1976. The 55% scale QSRA wind tunnel model was "rolled out" of the metal fabrication shop and delivered to the X-14 static test site for the start of an extensive test program. The model, which has been under construction since April 1976, is one of the most complicated large scale models ever built at Ames. It is powered by five JT15D turbofan engines and has over 600 static pressure taps. Two of these engines are used to power the Cessna Citation "Bizjet" airplane by way of comparison.

Design of the model was the work of the Boeing Commercial Airplane Company under contract to the QSRA Project Office.

Actual fabrication of the model was accomplished by the Ames Metal Fabrication shop under the direction of Tony Billalba. Coordination between Boeing and the Metal Fabrication shop was accomplished by Al Boissevain of the QSRA Project Office.

Data from the model test program will be used to support the design of the full scale QSRA, now in progress at Boeing in Seattle.

Another major ASRA milestone was the successful completion of the first simulation program during the first week in November.

First flight of the QSRA is presently scheduled for May 1978.

## Kubokawa honored by community

Charles C. Kubokawa, Chief of the Technology Utilization Office here at Ames has been elected a regional governor of the Japanese American Citizens League (JACL). He is a resident of the Palo Alto community.

Kubokawa will head the Northern California-Western Nevada district council, which is composed of 30 chapters with 12,000 members. The organization is a volunteer ethnic and human rights organization with 102 chapters across the nation.

He was named president of the Sequoia Chapter of the JACL in 1972 and was named "Niesi of the Biennium" by the organization.

## Bloodmobile visit

The American Red Cross Blood Mobile will visit Ames Research Center on December 15, 1976, between the hours of 8:30 a.m. and 1:30 p.m. in Bldg. N-239, Life Sciences Research Lab, Room 39 (Basement).

## Retraction

The article in the last Astrogram issue entitled "Aircraft Turbulence Warning Now Possible" referred, in error, to the Galileo II Convair 990 as being the research aircraft used in the turbulence mission. However, the Center's C-141 Gerard P. Kuiper aircraft performed the research and the Ames Public Affairs Office wishes to extend its apologies for erroneously printing the incorrect information.



## Dr. Lovelace visits ARC



Dr. Alan M. Lovelace, NASA Deputy Administrator, visited the Center on November 11 for discussions on a wide variety of Ames programs in Aeronautics, Astronautics, and Life Sciences.

In addition to program discussions, he was hosted by the Ames staff at a reception in the cafeteria on the evening of November 10.

## X-14B VTOL recently performs



The X-14B VTOL aircraft recently performed its first near-the-ground (ramp) hover in almost 10 years. The plane was piloted by Ron Gerdes - FOF. The X-14B is in its 20th (deci-bicentennial) year of flying and has been used extensively at Ames in various VTOL programs including studies to simulate the lunar lander. In recent years, the X-14B has undergone an extensive modification of the variable stability control system to include an analog and a digital fly-by-wire capability in hover. The current system has been exercised extensively on a VTOL test stand and in hover at an altitude of 2500 feet. This system allows the vehicle to be utilized as an in-flight simulator for the study of VTOL control concepts. The plane is being readied for a series of ramp hover flights in which general variations in control at hover will be compared.

## Space satellites

Two NASA satellites now being used to monitor Earth resources may taken on the additional task of "census takers" in the 1980 United States census.

The pair of Landsat spacecraft are currently undergoing a series of tests designed to evaluate their effectiveness in selective geographic operations of the U.S. Bureau of the Census. These tests are part of a joint technology transfer project which is being initiated by the Bureau of the Census and NASA.

Based on their ultimate performance in 1980, the robot census takers are expected to be put to work helping chart urban growth in subsequent censuses. Instead of once every 10 years, a complete U.S. census is now required every 5 years according to Public Law 521, signed by the President on Oct. 18, 1976.

Although not bionic beings, the pair are true robots (automated satellites). Together, the Landsats can photograph the entire United States every 9 days, cloud cover permitting.

Landsat images are not detailed enough for counting people or houses. They are used, however, to identify many geologic, agricultural and societal features, including residential patterns of growth.

Evaluations of the satellites' application to census requirements is being conducted at NASA's Goddard Space Flight Center, and the U.S. Bureau of the Census, Suitland, Md.

"Essentially, we want to see if Landsat can fit into the geographic operations of the Census Bureau and if it is cost-effective," said Jacob Silver, Chief of the Census Bureau's Geography Division.

## Bus Pool

from San Jose to Ames  
via Milpitas

8-4:30 shift

contact

Chuck McClinton x5312

## Dr. Lawson heads NASA university affairs

Dr. James R. Lawson has been named NASA's Director of University Affairs effective November 8, 1976.

Lawson is currently serving as Special Assistant to the Director of the Office of University Programs, Energy Research and Development Administration.

As Director of University Affairs, Lawson will report to the Associate Administrator and will serve as principal adviser on NASA's relationship with universities and provide management of NASA activities involving relationships with universities.

Lawson was born in Louisville, Ky., and obtained his BA degree in physics from Fisk University and his MS and Ph.D. in physics from the University of Michigan. He has served as an educator and administrator in various colleges, and became Professor and Chairman of the Physics Department at Fisk University in Nashville in 1957, engaging in research in the area of infrared spectroscopy. In 1966, he was appointed Vice President of Fisk and from 1967 to 1975, served as its President.



## EIT and CE exams

Engineers preparing for the Professional Civil Engineering or Engineer-In-Training examinations may enroll in the evening classroom reviews beginning the first week of January, 1977, and being held at Menlo College in Menlo Park. Both courses are prepared and administered by Michael R. Lindeburg, P.E., with the sponsorship of the Peninsula Chapter, California Society of Professional Engineers. Each course meets one night a week from 7:00 till 10:00 p.m. for 13 meetings, and finishes before the April exam.

Each course costs \$115 (\$95 to C.S.P.E. members; \$75 to full-time students). The E-I-T course meets Mondays beginning January 3, 1977; the Civil course meets Wednesdays beginning January 5. One credentialed, Professional Engineer is used per course.

You may enroll by sending your name, address, and daytime telephone number with your course choice and check (payable to "P.E. Registration Program") or your company purchase order to: P.E. Registration Program, P.O. Box 911, San Carlos, CA 94070. Directions to Menlo College will be included with your registration confirmation.

**Upcoming Courses:** Reviews for the November 1977 M.E., E.E., I.E., Ch. E., Nuc. E., and E-I-T exams will begin in August, 1977.

**For more information:** Call during the day: Michael R. Lindeburg, (415) 593-9731.

## Ruth Bates Harris leaves Ames

Ruth Bates Harris, NASA's Deputy Assistant Administrator for Community and Human Relations left NASA on October 15.

"I am returning to New York to attend to pressing personal family needs," Mrs. Harris said. "While my resignation from full-time efforts for NASA becomes effective in mid-October, I plan to spend a number of months continuing to work as a consultant to Robert Newman, Assistant Administrator for Public Affairs.

"This will afford us an opportunity to complete some unfinished community and human relations projects."

In expressing her regrets about leaving, Mrs. Harris said, "I want to express my thanks to NASA Administrator James C. Fletcher and his team for the privilege of being a public servant in an agency whose contributions in space exploration and technology have benefitted all humankind."

Mrs. Harris has led a distinguished career in equal opportunity and human relations activities in local and federal programs in the Washington, D.C. metropolitan area since 1960.

She was appointed to the position of Deputy Assistant Administrator in August 1974, the first woman in NASA to reach that position. She had served earlier as the first director of NASA's Equal Employment Opportunity Office.

Before joining NASA, Mrs. Harris was Director of Human Relations for the Montgomery County (Maryland) Public Schools. She also served as Director of the Washington, D.C. Human Relations Commission.

Mrs. Harris has been honored for her work in human relations with more than 50 awards and citations.

## ARA ACTIVITIES

**HAPPY HOUR - DECEMBER 3RD** - Don't forget the last Happy Hour of 1976 on Friday December 3rd. There will be a special promotion for sale of Christmas Party Raffle Tickets, so drop by and see what the ARA has planned.

**10 December - SUN PRINCESS CRUISE - MEXICAN RIVIERA.** Contact the Travel Company (408)732-0199.

Information concerning the next three trips is being printed and will be distributed to all employees. For additional information and reservations contact Marian Davis, ext. 5832/5833, M/S 206-3.

**27-30 December - PALM SPRINGS.** Accommodations at The Canyon Hotel. \$150/person.

**29 December - 2 January - NEW YEARS EVE AND THE ROSE PARADE.** Includes continental breakfast, lunch in Solvang, New Years Eve Dinner, box lunch and champagne, reserved seats at the Rose Parade, cruise to Catalina with evening dinner on the Queen Mary, and three tours - Universal Studios, movie stars homes and the Jacques Cousteau Museum, 4 nights accommodations at the HILTON QUEENSWAY in Long Beach, and round trip motorcoach transportation. \$185/person.

**22 or 23 January - THE CROSBY CLAMBAKE.** Includes round trip motorcoach transportation, your \$10 ticket to the Crosby Tournament, continental breakfast, complimentary refreshments, and dinner at Steinbeck's Lobster House on Cannery Row. \$26.50/person.

**NOTE:** The term for the present officers of the Ames Jetsetters expires on 30 Dec. If you are interested in the programs or would like to volunteer, please send your name and the position you would like to have to Ruthie White (M/S 202-3) or Marian Davis (M/S 206-3). Or, if you would like to nominate someone and they are agreeable to hold office, please do so. We need a new President, Vice President, Secretary, and Treasurer.

## Golf

The Ames Golf Club and their guests' recent venture to Mazatlan, Mexico at the El Cid Golf and Country Club resulted in many golf matches with a final Best Ball Twosome Tournament.

1st Place	Stu and Donna Johnson	Net 66
2nd Place	Howard Matthews and Tom Combelic	Net 66
3rd Place	Swede Nelson and Bob Stevens	Net 68
4th Place	Mitch Radovich and Cash Hamerick	Net 69
5th Place	Edie Watson and Ruth Richardson	Net 70
6th Place	Kay Bruck and Norm Martin	Net 71
7th Place	John and Hazel Mulkern	Net 72

Highlight of the golf activities was the presence of Lee Trevino who gave putting and chipping tips and Lee attended the Last Night Fiesta festivities with the group. Lee Trevino said the El Cid Golf Course was long and narrow with many "Out of Bound" areas to grab you.

Members and guests wish to thank Howard Matthews for all his efforts for this wonderful fun vacation package.

## Scuba club

The Ames Scuba Club will meet on 8 December 1976 in the Ames Cafeteria executive dining room. The meeting will begin at 12:45 and be over by 1:30.

**AMES TAKES FIRST PLACE IN JOGGING COMPETITION** - The results of the 2nd Inter-Center 2-Mile Jogging Competition are in and Ames took first place among the eight Centers and Headquarters teams with an overall point score of 69. A close second was JPL with 66 points and 3rd place went to Headquarters with 53.5 overall points.

Ames lead in points was due in part to the good running times of women and to the number of participants (57) competing for Ames, the largest number for any Center.

The 3rd competition will be held in April and the rotating trophy, now at Ames on view in the Cafeteria, will be hotly contested.

Winning times in this competition were in the men's categories: Under 30, 10:25 (JPL); 30-39, 10:15 (LaRC); 40-49, 10:34 (JSC); and 50 & over, 11:35 (JPL).

Women's categories under 30, 13:16 (JSC); 30 & over, 15:55 (JPL).

## Six-packs emerge as winners



The Six-Packs finally emerged as winners of the 10 team Ames Intramural Softball League. They did so by beating the Pumas 8 to 6 in a hard fought championship game. Other teams reaching the playoffs were the infrared Devils and the Muffdivers. The champions are pictured above, front row, left to right: Dennis Colasuanno, Len Zuras, Rick LaPado, Paul Polk, Jack McCann. Back row: Tom Kemper, Mike Lovas (manager), Chuck Kirkland, Ken Bauer, Vern Mastin, Jim Ryan. Others not in the picture are Bob Garton, Howard Thraul, and Don Tobias.



## Ames Promotion Plan vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
77-26	Wind Tunnel Mechanic - Shift Leader	WG-13	FAO	Centerwide	12-10-76
77-27	Secretary (Typing)	GS-4/5	RFP	Centerwide & Outside	12-10-76
77-28	Accounting Technician (GO)	GS-4/5/6	AFB	Centerwide	12-10-76

TO APPLY: Call Extension 5599 or 5600

### MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
	Patent Attorney (Chemistry)	DP	Armand McMillan
	Research Assistant	D	John Dusterberry
	Secretary (Typing or Stenography)	D	Jane Cordell
77-8	Accounting Technician	AFB	Cancelled

## Want ads Transportation

'73 Mazda, RX-2, sport coupe, radials, radio, only 35,000 miles. A steal at \$1585. Contact Ann Moosman, 967-5675 after 5 p.m.

For Sale: 1973, TR-6. Excellent mechanical condition. Interior and exterior in perfect condition. Overdrive, new top, luggage rack. Asking \$4,000. Please call Keith, 227-2806.

1969 Corvette, T-top, 350 CID, 4 SPD, PS, PB, PW, A/C, 78K mi, mech. good-excellent, body-sharp, \$5800, Don Kassner, 739-2195.

'71 Vega Hatchback, '73 rebuilt engine with steel sleeves, very clean. \$800 firm. Call 323-0194 after 6 p.m.

For Sale: 1969 Grand Prix, PS, PB, air condition, mags, air shocks, new tires, new front shocks, \$1500. Call 244-0866 (Santa Clara).

## Housing

FOR SALE BY OWNER: Milpitas, 4 BR, 2 BA, patio, near schools, stores, buses. Foothill view. 262-8061.

ALPINE MEADOWS - For Rent: Swiss Chalet cabin at North Shore, Lake Tahoe, AEK, dishwasher, 2 bed, 2 baths, sleeps 7, 739-5373 after 5:30.

HOUSE FOR SALE BY OWNER - Santa Clara, near El Camino & San Tomas Expressway. Near elementary & junior high schools & park. 3 bedrooms, 1 bath, good carpeting, fireplace, wallpaper, fenced yard with separate fenced vegetable garden areas, & covered patio. \$45,000. Call 248-3900 after 5 p.m. & on weekends.

Lease/Rent House in Sunnyvale Cherry Chase area, 3 BR, 2 BA, 2 car garage, carpets, drapes, stove, dishwasher and water softener, covered patio. 10 minutes to Moffett. Call Walter Rees, 245-5120.

FOR RENT: Sunnyvale townhouse, 3 BR, 1 1/2 bath, AEK, WW carpet, drapes, patio, pool, convenient location, avail. Dec. 20, \$325/month. 296-0424.

SQUAW VALLEY - Skiing with no traffic headaches. Fully furnished Condo. Sleeps 5. Three-minute walk to lifts. Call Ray Savin, 964-2170.

## Miscellaneous

Plate glass piece, to be used for desk or table top. Approximately 36"x30"x1/4", good condition, \$12. Call 739-5373 after 5:30 p.m.

Ski rack, adjusts to trunk of sedan auto, \$7. Call after 5:30 p.m. 739-5373.

Pair of pleated olive green lamp shades (accordion style) 14" deep, \$6 for pair. 739-5373.

For Sale: Crib & mattress, good condition - \$25; high chair, good condition - \$10. Call 295-6930 before 3 p.m. or after 8:30 p.m. or weekends.

For Sale: Panasonic 8-track deck - \$60, 120 cartridges - \$1-\$2, AC-DC portable player, \$20. Excellent AM-FM 8-track car deck, \$80, tape cases, \$1-\$10. Bruce 324-2043.

Maple Bunk Beds - \$50. 20-Gal. Aquarium - complete - \$15. Doll House (large) - \$15. Call Richard Petersen (415) 851-1906 (eves.)

FOR SALE: Accordion, Recanati 120 bass, 2 b-switches, 5 treble. Perfect cond. (appraised \$350) will sell \$135. "Great Books of the Western World" complete set with Syntopicon, bookcase, clean. \$125. Call 732-5569.

Siberian Husky Pups, AKC, great gifts, 251-0239.

For Sale: New Nikkormat EL (body), \$290 + Vivitar lens 35mm/2.8f, \$40. 326-9904.

San Francisco Symphony at Flint Center, Cupertino. Two tickets, 6th row center orch., for Wed. Dec. 29 and Sats. Jan. 29, Apr. 2, May 21. \$9.75/ticket. L. Tobias 733-5737.

Timbers, used; excellent condition; first growth Douglas fir; clear; finished all four sides; light paint; approx. 3500 board-feet; call Mitvalsky, 379-4120 or Lamica, RE6-8057.

Need mature female to share a townhouse in E. San Jose. Large master BR, garage, close to everything. Call evenings, 926-1284.

Sony tape recorder '250 A'. Reel to reel. Good condition, \$50. Call 867-5728 after 5:30 p.m.

Snow skis. Fischer Riesen-Slalom 210 cm. Good condition, \$25. Call 867-5728 after 5:30 p.m.

FOR SALE: Collegiate trombone - excellent cond. \$150. Call 263-2430 after 6 p.m.

For Sale: Nordica Alpina Ski Boots, used 1 season, size 6M, ladies, \$30. Call JoAnne at 443-8038.

For Sale: 21" men's 10-speed, extras, \$85. 493-7304.

7 Acres in Colo. Mts., 1 1/2 miles to airstrip, 12 miles to skiing, \$10,000. 493-7304.

MOVING SALE: Refrigerator, dinette set, desk & chair, baby furniture, decorator items, plants, camping & skiing equipment. All in exclnt cond and priced to sell. 2654 Kentworth Way, S.C., 246-9379.

Room Divider (Blk. wrought iron): 69 1/2" wide - 60" high - 13" deep. 4 redwood shelves (top and bottom full length - middle shelves half length). Excellent condition - just refinished. \$50. 797-2630.

FOR SALE: Ludwig-Zildjian drum set. Very good condition, \$700 firm. Jeff Souder, 245-9260.

FOR SALE: Sears Stingray Bicycle - 5 speed, good condition, \$35. Call Steve Koenig (408) 245-2338.

FOR SALE: PEUGEOT, 10-speed bicycle, near new. \$95. Tire chains - Sears - used once. Fits sizes 8.25x14 to 6.70x16. \$12. Tom Spalding, 248-1281.

\*\*\*\*\*

Please help! Housing is needed for college students who will be working at the Center during the month of January on the Ames "minimester" program. The students are from Stockton (UOP) and Tacoma (Univ. of Puget Sound). Contact the Training Office, ext. 5623.

**NASA**

National Aeronautics and  
Space Administration

Ames Research Center  
Moffett Field, California 94035  
AC 415 965 5091

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NASA-451





# The Astrogram

VOLUME XIX

NUMBER 5

December 16, 1976

## joy to the world

### DIRECTOR'S MESSAGE

It is always a genuine pleasure for us at this time of the year to wish you and yours a very happy Holiday Season and all the best for the New Year. Our country has just passed its 200th anniversary and I think we can all be proud of the contributions we have made at Ames to our country's strength and prosperity and also to enhancing knowledge. I am confident that in the coming year we will continue to add to our excellent record.

*Hans Mark*





## Spacelab simulation

Three Ames scientists, Dr. Bill Williams, Dr. Richard Grindeland, and Dr. Patricia Cowings, are currently in training for the seven-day Spacelab Simulation to take place in May, 1977. Dr. Williams will serve as Payload Specialist, Dr. Grindeland and Dr. Cowley as backup Payload Specialists.

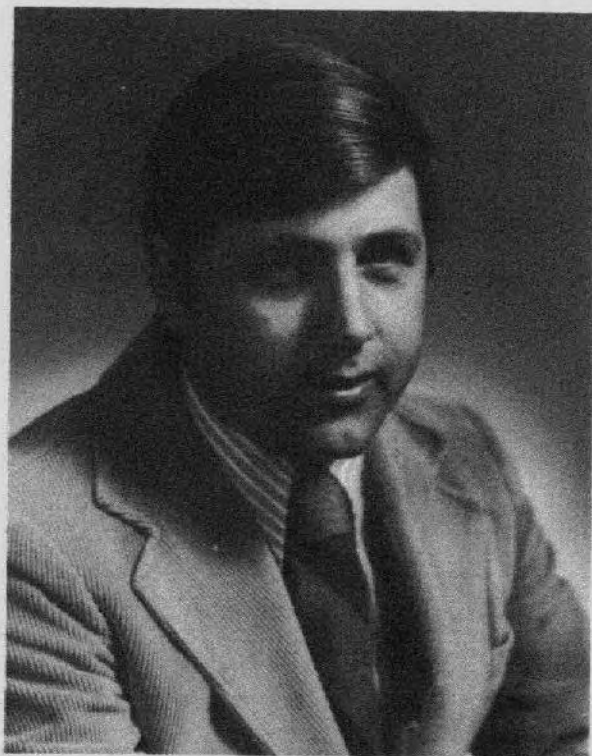
About 80% of their time is spent in training as crew members. As Payload Specialists they will be in charge of the some fifty experiments aboard Spacelab, 60% of them designed here at Ames. The first portion of the training took place at Ames — learning surgical techniques and methodology. Next step will be phase-training in real rack configuration in a Simulator mock-up at Ames.

Simulation training at Johnson Space Center for next year involves five one-week sessions and the final full-scale simulation which will last a total of five weeks — two weeks in confinement plus pre- and post-flight analysis sessions. The crew undergo rigorous medical screening tests such as a spin in a rotating chair, treadmill runs, getting "locked up" in a balloon to test reaction to confinement. They must learn vehicle systems, emergency procedures, escape modes, etc. In every way the Simulation will be identical to a real flight, except that it is not performed in space.

Dr. Williams is a Principal Investigator and will have two experiments on board, one on the effects of zero g on body temperature metabolism, the other tests the effectiveness of aspirin at zero g; both use rats as subjects. Dr. Williams' work at Ames has involved research into the way the central nervous system controls body temperature, and the development of specialized cooling garments for aerospace and industrial applications. This work has led to the creation of several new sectional cooling garments, especially a head cooling garment which can be used in many thermally stressful environments. Biomedical uses being investigated include chemotherapy, breast cancer detection, and neonatal thermal control.

Dr. Grindeland, Research Scientist in the Biomedical Division, has been investigating the effects of space flight on the endocrine system, especially as related to growth hormone and protein balance.

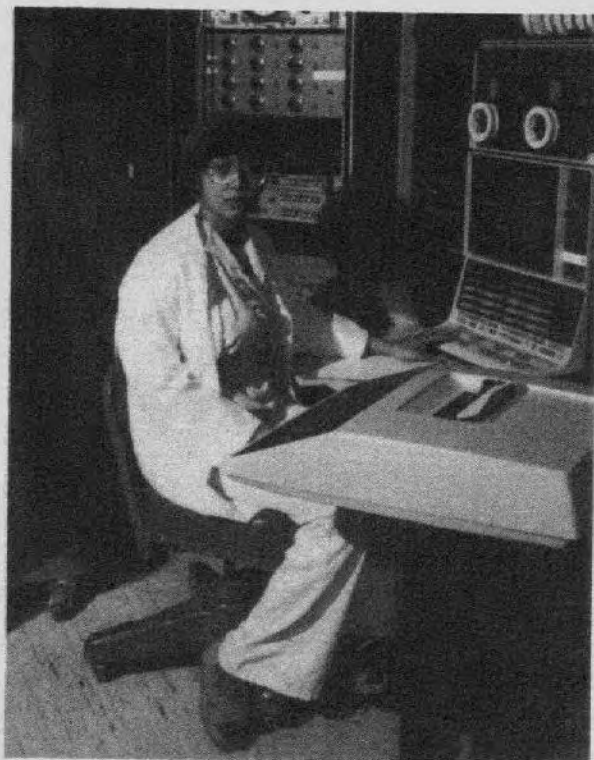
Dr. Cowings is employed by San Jose State University, has a grant with Ames, and is now the Principal Investigator of the Psychophysiological Research Lab. As part of her post-doc she developed a therapy combining Biofeedback with a relaxation training therapy which permits human subjects to control several of their own autonomic responses. This learned control has been demonstrated to reliably enable human subjects to suppress their own motion sickness symptoms. This therapy will have widespread application in medicine and is currently being considered for inclusion in the astronaut training program for the space shuttle flights.



Dr. Bill Williams



Dr. Richard Grindeland



Dr. Patricia Cowings

## Flame-proof Christmas trees

Arrangements have been made for the flame-proofing of all Christmas trees which are to be displayed within the Center's facilities. The transparent, clear, fire-retardant coating is approved by the State Fire Marshall's Office and according to the manufacturer will preserve the tree for a longer period of time.

Trees must be on stands to be sprayed, and should have an information tag securely attached to insure prompt return after spraying. The tag should include your name, extension, building and room number. Please phone for pickup and delivery at extension 5418 and 5419. Request the tree be sent to the Paint Shop, mail stop 214-1.

Because of the electrocution hazard, Christmas tree lights and other type of electrical wires on artificial metal or semi-metal trees are strictly prohibited.

## P-V Balloon-drop test

The plunge of the main probe for NASA's Pioneer-Venus mission into Venus' atmosphere was simulated last week by drop of the probe from an Air Force balloon, 20 miles above the Army's White Sands Missile Range in New Mexico.

The main Pioneer probe will carry instruments to make detailed measurements of Venus' atmosphere.

In last week's test, it duplicated the flight events just before descent into the planet's dense, steaming lower atmosphere. The test occurred at an Earth altitude of 50,000 feet (ten miles high) where atmospheric temperature and density, and probe velocity are much the same as those conditions on Venus.

Demonstrated were: deployment of the probe parachute; separation of its atmosphere-entry heat shield; and after 17 minutes of parachute descent, separation of the parachute for flight of the probe instrument vessel down to Venus' searing surface.

Objective of the two-spacecraft Pioneer-Venus mission in 1978 is to characterize Venus' relatively-simple atmosphere and weather. Scientists believe this knowledge will help them understand Earth's complex weather patterns.

Two coordinated Pioneer-Venus spacecraft will be launched to the cloud-shrouded planet in 1978, one in May and one in August. Both will arrive in December 1978. The Orbiter spacecraft will circle Venus for a year or more. The Multiprobe spacecraft carries the main probe and three smaller probes. The four probes will enter the atmosphere on arrival, some 5000 miles apart, and reach the surface in an hour. The main probe and one small probe will enter on the planet's day side, two other small probes on the night side. All four will measure the atmosphere from top to bottom.

The Pioneer-Venus Project is managed by ARC. Last week's test of the large probe was carried out by the U.S. Air Force Geophysics Laboratory (AFGL) using a three-million-cubic-foot, high-altitude plastic balloon. The balloon was launched from the Municipal Airport at Truth or Consequences, NM with prevailing westerly winds carrying it over the White Sands Missile Range. At White Sands, Army personnel are tracking the entering probe and will later recover all parts of the probe system.

Last week's demonstration was the first of two probe drop tests, the second in early 1977. After launch from Truth or Consequences, the huge balloon will rise in an easterly direction, reaching 100,000 feet over White Sands in about two hours.

The instrumented vessel contained special equipment to record system performance. Movie cameras on the balloon platform, and others looking back from the instrument vessel, as well as telescopic still and movie cameras on the ground, and range radar recorded the test.

NASA-Ames Probe Systems Manager is Simon C. Sommer. Captain Robert Greenlee, AFGL, is project officer for the balloon system. AFGL has long experience with high altitude balloon tests, most recently with the Viking lander for Mars.

The Pioneer spacecraft are built by Hughes Aircraft Co., prime contractor. General Electric Co., Philadelphia, makes the probe entry system.

## Surplus books

The Main Library Bldg. 202 is preparing to surplus books no longer needed in the library or branch library collections.

Before instituting formal surplusing procedures, the staff wants to be certain that all local needs are being met; therefore, the items being surplus will be available for examination by Ames employees. They may select any titles pertinent to their work for retention in offices or laboratories, during the period Dec. 20-31, 1976.



## Viking tests Einstein's theory

Scientists are using the Viking spacecraft on Mars to test Einstein's theory of general relativity. The experiment may be 10 times more accurate than any previous tests of the theory.

Both pairs of Viking Orbiters and Landers will be used in the test, which involves the measurement of roundtrip travel time of radio signals between Earth and the spacecraft. General relativity predicts that these signals will be slowed as they pass the Sun.

The tests are being conducted as Mars passes directly behind the Sun, as seen from Earth. Radio signals take 42 minutes to travel from Earth to the spacecraft and back. The predicted relativistic slowdown of the signals will have reached a maximum on November 25, causing an increase in the travel time of about two-ten-thousandths of a second.

Because of the precise Viking radio communications system, the 42-minute roundtrips of signals can be timed with an error of only one-ten-millionth of a second.

Einstein's theory of general relativity is the fundamental theory of gravitation, one of the known four basic forces in nature. Although it is the weakest force, gravitation governs all large-scale motions of matter and radiation in the universe, and bears on the question: Will the universe continue to expand forever, or will it eventually reach a maximum size and collapse?

Gravitation is also a key element in understanding the formation and evolution of such diverse astrophysical objects as galaxies, black holes and neutron stars.

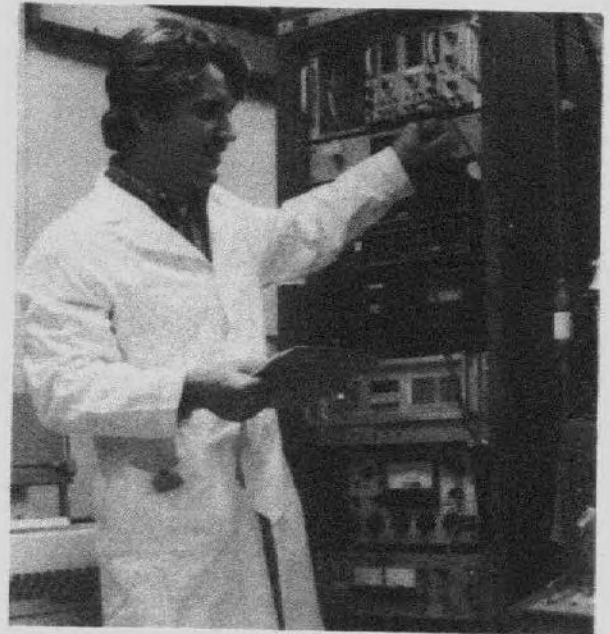
Despite its importance to astrophysics, general relativity has been subjected to the fewest tests of any fundamental theory. Laboratory experiments cannot accurately measure effects predicted by general relativity: experiments must encompass the solar system. The four Viking spacecraft are well suited to this test, both because they enable roundtrip delays to be measured with great accuracy and because they can be used to determine other contributions to delays well enough to separate the relativistic contribution. Other contributions stem from two sources: the orbits of Earth and Mars, and the Sun's corona, through which radio signals must pass.

A special Viking Project group, headed by W. F. Cuddihy of NASA's Langley Research Center, which manages Viking, is coordinating all planning activities for the experiment.

## Viking biology lab



Bonnie Dalton



John Calamoris

Bonnie Dalton of Ames Research Center leads a busy life giving Viking presentations to groups ranging from the Soroptimists to the Kiwanis. Manager of the Biosystems Viking Biology Laboratory in Bldg. 236 since Jan. 1974, she is in charge of the experiments run on two of the Test Standard Modules used to design the biology package for Mars. Testing soils specially incubated under a strong drying agent and loading them in the Pyrolytic Release Module enables the Biology Lab to mimic conditions found on Mars. Most of the operations of the PR instrument have been performed primarily to test variability of the unit's organic traps.

Among tests run on the Labeled Release unit were experiments to determine the levels of evacuation which might be run on a soil sample to prevent soil blowing, and tests of lunar soil. Currently, tests of peroxidized soils are being compared with the Martian results.

Although Ms. Dalton is by training a Microbiologist, her assistant, Bill Ashley, a Histopathologist, and John Calamoris, a Biochemist, all three feel like qualified mechanical engineers after two years of manipulating valves, wires and connectors. Tracing down a gas leak in the test modules means looking for a lead of  $10^{-7}$  cc per minute. Much credit goes to Bill Chung and Dwight Moody, skilled in working with microminiature parts.

As the Biosystem Lab's role in the Viking Mission begins to wind down this spring, the team will begin to gear up for the Space Lab experiments it is in the process of designing. This time the biology will involve life forms ranging from fruit flies to monkeys being tested for reaction to space flight.

## Smoke detectors safe

The National Fire Prevention & Control Administration and the National Bureau of Standards support the Nuclear Regulatory Commission's determination that radiation from ionization smoke detectors represents a negligible exposure level.

"Instances have been brought to our attention where people either did not purchase a smoke detector or removed in-place detectors from their homes out of fear of radiation," said Howard D. Tipton, NFPCA Administrator. "While the risk of

radiation from a smoke detector is negligible, the risks of failing to purchase a detector, or of removing one already installed, are very real. Of the 12,000 persons who die from smoke and fire each year, and of the 300,000 persons who are seriously injured, the great majority fall victims at home at night. Smoke overcomes them before they can awaken and escape. Where people are not protected by smoke detectors, the likelihood of fire-deaths and injuries is increased."

## Foothill students receive phase



The above Foothill/DeAnza students recently received Phase Certificates from Lee Stollar, Chief of Technical Services Division, for completing specific phase work in the Machine Tool Technology Program at Ames Research Center. They and their job sites are (l. to r.): Fabrication Shop-Mike Guerreiro, Sam Borland, Tom Gibertson, Tim Hickey. Wood Model Shop-Steve Hays. Machine Shop-Ron Lamica, Don Rodovich, Robert Stahl.

## Lee and McCroskey honored

Prof. Erastus H. Lee of Stanford University and William J. McCroskey, an engineer at the Ames Research Center in Mountain View, have received medals from the American Society of Mechanical Engineers.

Lee received the Timoshenko Medal for his contributions in solid mechanics over a 30-year period. The award was named for Prof. S. P. Timoshenko of Stanford, under whom Lee studied.

Lee was born in Britain, and he headed a solid mechanics division of the British armaments research department during World War II. After the war he was assistant director of the British atomic energy department. In 1948 he joined the Brown University faculty, and in 1962 he became a Stanford professor.

McCroskey received the Freeman Scholar Award. He delivered a speech on current research on aerodynamics at the society's annual meeting.

McCroskey received a Ph.D. aeronautical and mechanical engineering in 1966, and he joined the U.S. Army Aeronautical Research Laboratory. He now heads the fluid mechanics group of the Army Air Mobility Research and Development Laboratory at Ames. Helicopters are a specialty.



## Ames Promotion Plan vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
77-11	Personnel Clerk (typing) or Clerk-Typist (Closing date extended)	GS-4/5 GS-3/4	APM	Centerwide and Outside	12-30-76
77-19	Security Clerk (typing) or Clerk Typist (Closing date extended)	GS-4/5 GS-3/4	APS	Centerwide and Outside	12-30-76
77-28	Accounting Technician (GO)	GS-4/5/6	AFB	Centerwide	12-30-76
77-29	Computer Equipment Analyst	GS-7/11	FLI	Centerwide	12-28-76
77-30	Lead Travel Clerk	GS-5/6	AFP	Centerwide	12-27-76
77-31	Contract Specialist	GS-11/12	ASF	Centerwide and Outside	12-27-76
77-32	Contract Specialist	GS-12/13	ASR	Centerwide and Outside	1-4-77
77-33	Contract Specialist (3 positions)	GS-11/12	ASR	Centerwide	1-7-77

TO APPLY: Call Extension 5599 or 5600

## MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
77-6	Technical Assistant	ST	Edward Tindle
77-10	Voucher Examiner	AFG	Phyllis Smith Gayle Woody

## Ames children's Christmas party



## Raffle winners

1st Prize	\$225	David Van Sickle
2nd "	\$150	Jerry Sherman
3rd "	\$100	Lorraine Jolliffe
4th "	\$ 75	William Carlson
5th "	\$ 50	Charles F. Hall
6th "	\$ 50	Eleanor Holt
7th "	\$ 25	Ethel Bauer

Ski rack, adjusts to trunk of sedan auto, \$7. Call after 5:30 p.m. 739-5373.

'72 Capri V6, electronic ignition, headers, radials, AM/FM 8-track stereo, runs great. \$2250. Call Dave at 243-2093.

Honda '76 550, freeway bars, back rest, luggage rack. \$1300. Call Dave at 243-2093.

Travel trailer — 1972 Komfort 20½ ft. Like new, hardly used, factory air, fully self-contained, many extras. Never pulled off hiway. \$2995. (415)447-6916.

## Housing

Female coop student needs place to stay, preferably a house, from January 1977 through July 1977. Prefer Palo Alto area but is open to any available place. For more information write: Agnes Berta, 562 E. 12th Street, Chico, CA 95926, or call (916)345-2739.

FOR RENT: 2 bdrm. 1½ bath apartment in Sunnyvale. Available December 1st. Carpet, drapes, dishwasher, pool. Approximately 4½ miles to Ames. Phone 245-2796 after 5 p.m.

Please help! Housing is needed for college students who will be working at the Center during the month of January on the Ames "minimaster" program. The students are from Stockton (UOP) and Tacoma (Univ. of Puget Sound). Contact the Training Office, ext. 5623.

## Miscellaneous

FOR SALE: Siberian Husky pups, AKC, male/female, great gifts, 251-0239.

San Francisco Symphony at Flint Center, Cupertino. Two tickets, 6th row center orch., for Wed., Dec. 29 (Vienna Night), and Sats. Jan. 29, Apr. 2. \$9.75/ticket. L. Tobias, 733-5737.

Rotary lawn mower (gasoline) used 20 hours, \$65. Rosignol Strato skis (the first and best Strato made), 207 cm, \$45. 322-1463.

Zig-zag sewing machine, cams, wood console, knee control, \$125. 591-4320.

American Mag wheels, 15" with adaptors, wheel locks, excellent condition, set of 4, and one good tire. \$100. 227-0122.

Bunk or twin beds, oak, with mattresses, \$100; wrought iron railing, 48L X 36H, \$25; chair, Danish Modern, blue cushions, \$25; desk, child's, 30W X 21D X 28H, one drawer, \$7; lawnmower, push type, \$7. Telephone 259-6069.

Lost: House key, Dec. 7, at lunch — along Arnold Ave., or Durand Road. Contact Dave Wesley, Bldg. N-247, room 204, ext. 5047.

WANTED: Single bed with firm mattress. Call 279-1021.

EAST-WEST FOOTBALL GAME benefits Hospital for Crippled Children. Get your tickets from Bob Springer, ext. 5962. Will deliver to your home. \$5.00 and up, C.O.D.

Moving Sale: 6 captain's chairs, Kenmore dryer, G.E. washer, lawn mower, stereo speakers, bathroom sink, 5 gal water bottles, ironing board, wood side-chairs, belly dance costumes. Eves. 969-5068.

Want ads  
Transportation

1971 350cc Honda. Good cond. Used for commuting. \$450. 736-3984.

1973 VW 7-pass. bus. Good mech. cond. \$2900. 244-7816, after 5 p.m.

FOR SALE: '76 Chevette Scooter. 1400cc, AM/FM radio, 6000 mi. \$2400 firm. J. Miller. 736-2696.

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# The Astrogram

VOLUME XIX

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## DeFrance named AIAA Fellow

George M. Low, President, Rensselaer Polytechnic Institute, Smith J. DeFrance, retired director, NASA-Ames Research Center, and Luigi Broglio, Director, Centro Ricerche Aerospaziali and Professor of Aeronautical Engineering, University of Rome, Italy have been elected by their peers, the Fellows of the American Institute of Aeronautics and Astronautics, to the status of Honorary Fellow. They will be honored at the Institute's Fellow's Dinner, January 12, 1977 at the National Aviation Club in Washington, D.C. Additional recognition will come in a ceremony at the AIAA Honors Night Banquet, January 13, 1977 at the Sheraton Hall in Washington, D.C.'s Sheraton-Park Hotel.

Honorary Fellows are "persons of eminence in aeronautics and astronautics and shall be nominated by the Fellows residing in the United States." Each year, two American Honorary Fellows and one foreign Honorary Fellow are elected.

The Citations for the new Honorary Fellows read as follows:

*George M. Low:* "For his engineering judgment, managerial skills, and outstanding leadership which have been directly responsible for the success of the nation's manned and unmanned space ventures."

*Smith J. DeFrance:* "For his leadership in directing and building NASA Ames Research Center to a position of eminence in aerospace research and development."

*Luigi Broglio:* "For his imaginative and innovative spirit in aeronautics and for the development of instrumentation and facilities for space research."

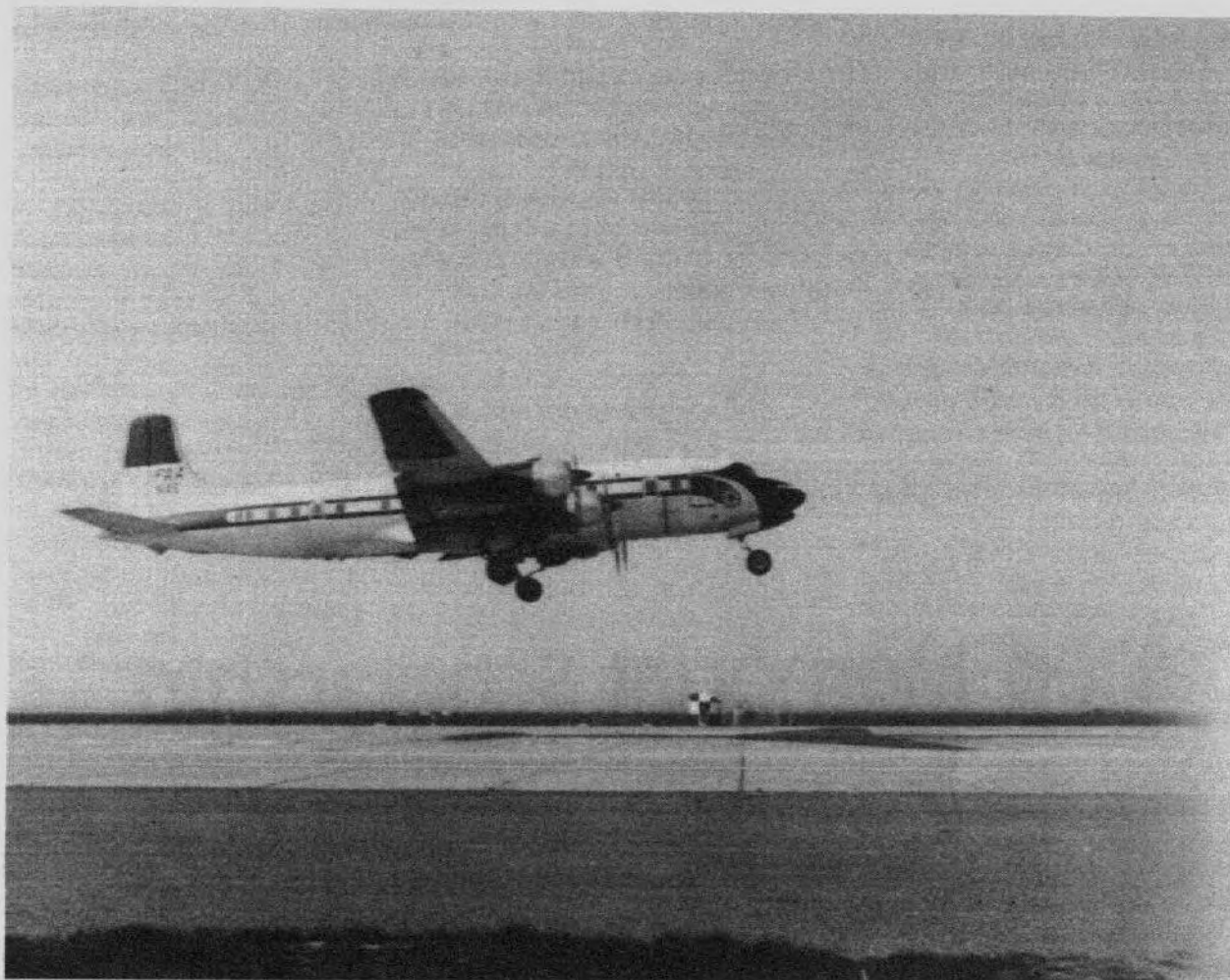
The AIAA Honors Night Banquet is the social highlight of the Institute's 13th Annual Meeting and Technical Display, which will run January 10-14. The meeting itself is a 4-day symposium examining the technical and public policy aspects of aerospace.

Other highlights of the Honors Night Banquet include the presentation of newly elected Fellows of the Institute, the bestowal of 7 major AIAA awards, and the installation of Rene Miller as the Institute's President for 1977.

## Response to query

The drop from a balloon of the Pioneer-Venus Main Probe over White Sands Missile Range, NM, Thursday, December 16, was not a success. The probe instrument vessel separated from the parachute well before the required separation time. All system components, the entry heat shield, the parachute, the instrument vessel and other items and instrumentation have been recovered. They and various types of observation data on the flight are being studied to determine the problem. A retest balloon drop, to take the place of last Thursday's operation, is planned for next spring. The malfunction is not expected to affect the 1978 launch schedule for the Pioneer-Venus Orbiter, or the Multiprobe spacecraft.

## Prototype microwave landing system installed at Crows Landing



One of two prototype Category II Microwave Landing Systems (MLS) has recently been installed and tested at the Crows Landing Naval Auxiliary Landing Field, California, by a team of Ames Research Center, FAA, and contract personnel. The development of the MLS is a joint DOT/DOD/NASA program to provide a common civil/military replacement for present landing systems.

The principal approach and landing systems currently in use are the Instrument Landing System (ILS) for civil aircraft and the Ground Controlled Approach (GCA) system, used largely by military aircraft. Each of these systems has been used essentially unchanged since its introduction in the early 1940's. Over the last few years, the Navy and Air Force have installed, on a limited basis, tactical microwave landing systems to meet urgent military requirements.

The proposed new landing system will provide appropriate guidance signals so that closely-spaced parallel runways may be used to accommodate high density air traffic. With appropriate airborne processing, the high quality signals will permit the derivation of flexible flight paths as an aid to noise abatement and increased capacity in the terminal area. Accurate guidance signals will be furnished that will be relatively insensitive to weather, terrain, structures, and other aircraft. Low cost versions will be

available that will be appropriate for small airfields. Versions will also be available that will be suitable for vertical and short takeoff and landing (V/STOL) operations and for the full spectrum of military applications.

The ground portion of the prototype MLS received by Ames was built by Texas Instruments, Inc., and the airborne receivers by Bendix Avionics, both under an FAA Headquarters contract. Under an FAA/NASA agreement, Ames is providing the flight test facilities for the consolidated FAA/Navy/NASA testing of the MLS in exchange for custody of the system for use in V/STOL R&D programs. Ames was selected to receive one of the prototype systems because of its MLS expertise and its MLS static test vehicles and real-time data acquisition/reduction facilities.

The Crows Landing MLS effort was completed ahead of schedule with only two and one-half months required for the site preparation, installation, extensive static testing and 66 hours of flight testing. The key organizations involved in this effort include: FAA Hq. Approach and Landing Div., FAA-National Aviation Facilities Experimental Center (NAFEC), Texas Instruments, Inc., Bendix Avionics, and the following Ames Branches: FSV, RFS, RFR, RSE, RSS and ASF.



## NASA's aviation reporting system

The NASA Aviation Safety Reporting System (ASRS) received nearly 1,500 reports during its initial three-month operational period ending in mid-July. Information contained in these reports prompted the submission of 130 alert bulletins to the Federal Aviation Administration (FAA).

The ASRS is designed as an early warning system. Reports describing problems are voluntarily submitted to NASA by pilots, air traffic controllers and others in the National Aviation System.

Reports received describe occurrences in nearly every type of aviation operation including domestic and charter air transport, corporate and personal business flying, pleasure flying and flight training and military flying.

The reports dealt with air traffic control procedures, flight operations, pilot or controller workload and with hazards to others on the ground. Navigation and communication equipment problems were described. Some concerned equipment malfunctions; others described a need for reconfiguration or additions to equipment. In some cases, updating of computer software introduced automated equipment problems. Physical obstructions to air navigation were identified.

A substantial number of ASRS reports involved human error. Careful analyses by reporting personnel of why they erred suggests that many of them have learned from their experiences. Some of these reports will be useful instructional tools in future airman education programs. Others have provided insights into system factors that contribute to such errors, and these system factors have been described in bulletins forwarded to FAA for investigation and action.

Even without computer assistance, a careful review of reports to date has begun to yield insights into certain less obvious problems in the national aviation system. Analytical studies of these problems are underway or are planned for the near future.

Twelve reports concerning aircraft accidents were identified and forwarded to the National Transportation Safety Board and the FAA as required. No reports contained information relating to a criminal offense. All other reports received by the ASRS had reporting persons' names removed, as specified in the FAA/NASA memorandum of agreement.

The ASRS is receiving a broad base of support within the aviation community. The quality of the reports have made it possible to gain an appreciation of the problems without extensive research. Thus, ASRS has been able to disseminate information about these problems promptly and effectively. This is the primary aim of the ASRS and of the FAA's Aviation Safety Reporting Program.

Pilots and aircrew members submitted 62 percent of the reports and air traffic control personnel accounted for 34 percent.

Phases of flight during which occurrences were observed and subsequently reported, based on percentage of reports received, included preflight and ground taxi (6 percent), takeoff and climb (18 percent), cruise (22 percent), descent (16 percent), approach and landing (27 percent), and all flight phases (11 percent).

Approximately 99 percent of the reports received included reporter identification in sufficient detail to permit follow-up by NASA when required. Such follow-up contact was initiated by NASA in more than 150 cases.

## Galileo Memorial Scholarship

Applications are now available for the 1977 AIAA/ARC Galileo Memorial Scholarship Program. The scholarship is open to high school seniors who intend to pursue a career in engineering, mathematics or the physical or natural sciences and who are either residents of San Francisco, San Mateo, Santa Clara or Santa Cruz County or children of Ames Research Center career employees, retirees, on-site support service contract employees or Galileo crew members. One \$750 scholarship will be awarded and as many as four other finalists will receive \$100 Savings Bonds.

The Galileo Memorial Scholarship Program was established in 1973 by the San Francisco Section of the American Institute of Aeronautics and Astronautics and Ames Research Center as a memorial to the men who perished with the Galileo I in an accident on April 12, 1973. The Galileo I, as is its replacement Galileo II, was a Convair 990 aircraft, modified and operated by Ames as an airborne laboratory for research in aeronautics, astronautics, astronomy and earth observations.

The Selection Committee will determine the winner of the Scholarship on the basis of the following items. (1) An essay, limited to 1200 words which describes the career that the applicant intends to pursue and the proposed course of study. Explain the motivation for the choice, describe any special interests, and the accomplishments expected. (2) Scholastic standing as determined by grade-point average and/or Scholastic Aptitude or other college entrance test scores. (3) Letter of recommendation from a faculty member who has personal classroom knowledge of the applicants abilities. (4) Interview of finalists by the Selection Committee.

The deadline for applying for the Scholarship is February 28, 1977. Further information and applications may be obtained from the Scholarship Program Chairman, Mamoru Inouye, extension 5126, Mail Stop 233-1.



## Noontime injuries

It is the general policy to OWCP that civil employees of the United States who are injured during lunch hour while on the premises of the employer are afforded the protection of provisions of the Federal Employees' Compensation Act. This type coverage does extend to employees who are engaged in reasonable recreational activities. Such recreational activities are considered incidental to one's employment unless the injury is caused by the employee's intoxication, willful misconduct, or intention to bring about the injury or death of himself or of another person. Thus, the majority of recreation-type injuries occurring on the work premises during regular working hours of employment are compensable; it is not required that an employee be in the performance of assigned duties, or that he be engaged in a formal type of recreation. As with other injuries sustained by employees on the premises, recreational injuries should be reported to the appropriate District Offices of the OWCP, and should include all the pertinent factual information upon which determinations can be made by the District Offices.

## Thank you

Dear friends:

Elsie and I want you all to know how much we appreciated and enjoyed my retirement luncheon. The presence of so many of my fellow workers brought back many pleasant memories of past years.

The saber saw and electric sander are very welcome gifts and will be used many times in the years ahead. Also, the Retirement album will be a constant reminder of my years at Ames.

Our thanks to those whose effort put the entire luncheon together. And thank you to all those who attended and made this such a memorable occasion for us.

Sincerely,  
Elsie and Ernie Hedstrom

## Safety corner

According to the Nuclear Regulatory Commission (NRC), radiation exposure from the ionization detector is far below the normal radiation a person receives each day from the sun. The NRC cites a number of additional facts as evidence of the safety of smoke detectors. Among them are:

If you stand within ten inches of an ionization detector for eight hours a day, every day of the year, the annual radiation exposure would be less than 0.5 millirems. For comparison purposes, normal background radiation exposure from natural sources is approximately 100 times greater per year.

A person flying round-trip across the United States receives about 5 millirems because of the increased radiation at high altitudes. This is ten times greater than the exposure you would receive by holding the detector next to you eight hours a day for an entire year.

The NRC has stated that the "regulatory requirements which deal with the matter of design, use and disposal of smoke detectors containing small quantities of radioactive material provide an adequate basis for public health and safety." Further, before a license is granted for production and sale of an ionization detector containing a radioactive source, a detailed safety evaluation is made by NRC of both the detector design and the manufacturing process. The evaluation includes consideration of external radiation levels, degree of access during normal use, accidental handling and abuse, and disposal.



## Tuesday noon at the movies

For the four Tuesday noons in January, Ames employees will have an opportunity to attend "Tuesday Noon at the Movies" when some of the newer NASA films will be shown in the Ames Main Auditorium (Building 200) from 11:30-12 noon.

January 4: "The Age of Space Transportation" — This 20-min movie, 1976, is a dramatic depiction of the Space Transportation System, now under development, and of its many uses to aid people on Earth.

January 11: "4 RMS — Earth View" — Skylab was the first United States manned space program developed specifically to carry out activities aimed at improving our life on Earth. This is the story of the three missions, the nine astronauts, and their 171 days in America's first manned laboratory in space. Actor E. G. Marshall acts as host and moderator in this 1975, 28-min film.

January 18: "The Mission of Apollo Soyuz" — The Apollo/Soyuz mission was a precedent-setting event in the sphere of international manned space flight. The film stresses the spirit of cooperation and friendship between the U.S. and U.S.S.R. that helped make the mission a success. The 1976, 29-min film concludes with a projection of the role of international cooperation in space featuring the Space Shuttle and the European payload "Spacelab" which will be developed and funded by ten European nations.

January 25: "The Universe" — This 1976 motion picture explores our universe's almost inconceivable extremes of size and time. From the vast islands of stars called galaxies to subatomic particles, and from cosmic events that occurred billions of years in the past to microcosmic events in the present that endure for only a billionth of a second, this 27-min film dramatizes a mysterious and incredibly violent universe. It is narrated by William Shatner.

Seating in the Ames Main Auditorium will be on a first-come, first-served basis. If attendance and interest warrant, the series will be continued after January.

## Local high school receives Ames helicopter

The Ames UH-12E helicopter, more commonly referred to as the Hiller Helicopter, found a new home on December 17. The aircraft was recently declared surplus to the Government's needs and was given to San Jose's newest high school, Independence High School, where it will serve as a classroom teaching aid for future aircraft mechanics and pilots in Independence High School's aeronautics programs. The high school currently has 2700 students and has a capacity of 5000.

Daniel Dugan flew the helicopter from Ames and landed it in the high school's "Receiving Area" during the school's activity break on Friday morning. Hundreds of students lined the fences around the Industrial Arts Department to watch Pilot Dugan circle the school campus and then land the Hiller, to the musical accompaniment of the Independence High School band.

Three television stations covered the activity and noted that the event occurred without a problem, except that the door of the storage area was 3-1/2 inches shorter than the top of the Hiller, but temporary removal of the helicopter's skids solved that problem.

## ARA ACTIVITIES Jetsetters news

15 May 1977 — CARIBBEAN CRUISE from the Port of Miami — 8 days, 7 nights. Ports of Call: Nassau, San Juan, and St. Thomas. Flyers will be distributed to all employees as soon as possible.

NOTE: The term for the present officers of the Ames Jetsetters expires on 30 December. If you are interested in the programs and would like to volunteer, please contact Ruthie White (M/S 202-3) or Marian Davis (M/S 206-3). We need a new President, Vice President, Secretary, and Treasurer.

## Golf

Another successful Ames Golf Club season has been completed. Now is the time for old and new members to "work" on their games for the 1977 season which starts in February. The 1977 Ames tournament trail will start with Sunnyvale Municipal in February and end with Pleasant Hills in December. In between, the "Tour" will make stops at both Sunol courses, Spring Valley, Riverside, San Jose Muni, Laguna Seca, DeLaveaga, Santa Teresa, Pajaro, Aptos, Ridgemark, and Del Monte. As you can see, a "swinging" season is on tap.

For the benefit of new members (and perhaps some of you "old timers"), a little history may be in order. The Ames Golf Club "officially" came into existence on December 7, 1954. Prior to that time, the "gang" would have "informal" gatherings several times a year at Hillview Golf Course (now the site of Eastridge shopping center). After the establishment of the club, "formal" gatherings were held at Hillview, Almaden, Crystal Springs, etc. ("Formal" — buy your own beer!) Today, the "Club" travels far and wide as the 1977 schedule indicates. "Old" members send in your dues — the rest of you golfers join up — you're missing all the fun.

## Christmas reflections

The annual Ames Christmas caroling again helped initiate the Holiday Season for Ames staff members.

On Saturday, December 11, the carolers performed at the Children's Christmas Party in the Research Aircraft Hangar.

On Tuesday, December 14, the carolers made their annual walk-around-the-Center and visited 15 buildings. They also gave a half-hour concert in the Cafeteria at noon.

The carolers this year were: Richard Pea (Electro-Systems Engineer) who is the group's director; Frank Cota (Model and Instrument Machining) who started the first Christmas caroling nearly 25 years ago at Ames and with Dick Pea now organizes the activity each year; Margaret Wimsatt (Man-Vehicle Systems Research); Jeannette Richards (Advanced Life Support Project); Hilda Hamrick (Photo Tech);

## Scuba club

The Ames Scuba Club will meet on 12 January 1977 in the Ames Cafeteria executive dining room. The meeting will begin at 12:45 and be over by 1:30.

**BASKETBALL RESULTS** — For the first time in over a decade, the NASA Ames Industrial Basketball Team finished the first half of the season with a 6-1 won-loss record (the only loss occurring in a triple overtime). The team participates in the Sunnyvale Parks and Recreation Associations Fall League at Peterson High School in Sunnyvale. In a playoff for the first half of the season championship against BTI, NASA, trailing most of the game, forged a last minute, come-from-behind victory. Team members include Denny Chaussee, Mladen Chargin, Sheldon Dietrick, Larry Gary, Roger Hedlund, Ernie Jennings, Dan Kojiro, Paul Kutler (coach), Jim Myers and Larry Olson. The second half of the season begins January 3rd and will end the last part of February.

**SAN FRANCISCO SPORTS AND BOAT SHOW** — Discount tickets for the San Francisco Sports and Boat Show Sunday, January 16 are available at the ARA Store. Regular admission is \$2.50 and discount ticket holders will pay only \$1.25 for entrance.

**ARA EXECUTIVE BOARD ELECTION** — Nominations for positions on the ARA Executive Board will be accepted in January. Here's your opportunity to contribute your talents and ideas to ARA activities. If you'd like to see changes made, have suggestions or want to help with recreational and social activities at Ames, this is an excellent way.

The ARA Executive Board wishes everyone a **HAPPY NEW YEAR** and is planning for new and interesting activities in 1977.

Deborah Barnes and Roxanne Zamora (Travel Office); Bonnie Thies (Financial Management); Diane Cusano (Pioneer Project); Patricia Gilchrist (General Accounting); Anne Thornton (Electro-System Engineering); Betty Hemphill (Accounts Control); Nicky Dinick (Model Development); Frederick Hansen (Thermo and Gas-Dynamics); Jack Osorno (Model and Instrument Machining); Floyd Wiens (Northrop contractor); Freddy Silva who is a Navy employee who used to work at Ames and returns every year to accompany the group on his tenor saxophone; and Barbara Busch (Educational Programs) who accompanies the group on the portable organ borrowed each year from the Navy Chapel.

From all the carolers — hope YOUR Holiday Season was a good one! Come and join us next year!





## Ames Promotion Plan vacancies

Notice No.	Title	Grade	Org.	Area of Consideration	Closing Date
NONE					

### MERIT PROMOTION PLAN SELECTIONS

Notice No.	Title	Org.	Name
77-4	Supervisory Electronics Engineer (Assistant Chief, Electronic Instrument Development Branch)	RFD	Gordon Deboo
77-7	Engineering Information Assistant	RF	Nancy Lee
77-20	Personnel Clerk/Staffing Assistant	APM	Barbara German

## ACE Winter/Spring courses

ASSOCIATION FOR CONTINUING EDUCATION

Winter Quarter/Spring Semester, 1977

Course Number	Course Title	Day	Start & End Dates	Time
<b>GOLDEN GATE UNIVERSITY MBA PROGRAM</b>				
EC 292	Managerial Economics	TTh	2/8-5/19	12-1:10 pm
GM 262	Policy Formulation & Administration	TTh	2/8-5/19	7-8:15 am
MA 237	Marketing Planning	M	2/7-5/16	4:30-7 pm
QA 272	Managerial Science II	MW	2/7-5/18	7-8:15 am
<b>COLLEGE OF NOTRE DAME MBA FOUNDATION PROGRAM (MANAGEMENT DEVELOPMENT courses denoted by ●)</b>				
BA C195	Management & Organizational Behavior ●	Th	1/6-3/17	5-6:45 pm
BA C102.02	Accounting for Managers ●	T	1/4-3/15	5-6:45 pm
BA C160	Marketing	W	1/5-3/16	5-6:45 pm
MATH C104	Introduction to Computer Technology	Th	1/6-3/17	5-6:45 pm
<b>SUPERVISORY SKILLS PROGRAM</b>				
BA C135.01	Elements of Supervision	TTh	1/4-3/17	12-1 pm
MATH C104	Introduction to Computer Technology	Th	1/6-3/17	5-6:45 pm
<b>SPECIAL &amp; GENERAL INTEREST PROGRAM</b>				
BA C117	Personal Income Tax Preparation	TTh	1/4-3/17	12-1 pm
GT 299	Think Metric	M	1/3-1/31	5-6:45 pm
GT 399	S. I. Metric System	M	1/3-3/14	5-6:45 pm
ET 499	Introduction to Microcomputers*	T	1/4-2/8	5-7 pm
ET 500	Digital Signal Processing*	MW	1/3-3/14	12-1 pm
ET 150	Introduction to Electronic Equipment Documentation	MW	1/3-3/16	12-1 pm
SS 399	Tools for Making Better Cash Investment Decisions*	TTh	2/15-3/17	12:30-1 pm
PR 850	Creative Problem Solving	MWF	2/14-3/4	12-1 pm
PR 830	Memory Improvement	MW	2/7-3/16	12-1 pm
PR 840	Personal Money Management*	MWF	1/3-1/28	12-1 pm
PR 814	Effective Reading*	MW	1/3-2/2	12-1 pm
PR 824	Communicating Successfully*	F	2/25-3/18	12-1 pm
MGT 102	Time Management*	MWF	3/7-3/18	12-12:45 pm

\*Video Tape Program

Any student wishing to apply courses taken for credit through the College of Notre Dame via ACE towards the Business Administration major at the College of Notre Dame should check with the Dean of Continuing Education at CND before enrolling.

## Want ads Transportation

'65 VW Bug. Good commute car; 84000 miles. \$550. 736-2621 after 5 p.m.

'75 MONACO motorhome. 22 ft. bunkhouse, sleeps 6. Only 10,000 miles. Completely self-contained, air, deluxe. Super buy at \$12,700. Call 225-1530 after 3 p.m.

75 Honda CB360T, 4000 miles, rack. Excellent condition, \$725. Call 243-6745 aft. 5.

FOR SALE: 1963 Chevy, 4 door, 6 cy standard transmission. Good work car, \$285. Marnell Smith, 997-2470.

FOR SALE: 1972 Ford Pinto Sedan, 2000 c.c. engine. See and appreciate an excellent buy at a low price, \$1450/make offer. 651-9540.

## Housing

House for Rent in Sunnyvale: 3 bedroom, 2 bath, carpets, fireplace, covered patio. Walk to schools, library, tennis, shopping. \$365/mo. 493-8554.

HOUSE FOR SALE, Sunnyvale, 5 miles from Ames, 4 BR, 2½ Bath, DR. Large family room with wet bar and fireplace, split level. Call 732-0727.

## Miscellaneous

Wooden desk with 7 drawers, good condition, \$40. Call: 321-1858.

Twin bed with beautiful neat clean mattress and box spring. \$40. Call 321-1858.

Heavy-duty brown vinyl chair, like new, comfortable, relaxing, \$70. Call 321-1858.

Forming car pool from Eastside & Evergreen area. 7:30 a.m. to 4:00 p.m. 238-3390.

FREE to good home - Irish Setter/Samoyed puppies. 8 weeks old and ready to be given to a good and loving home. Call Judie at x5287 any time, as soon as possible.

For Sale - Hanson Team Boots used only a few times. Excellent condition. Paid \$200 but will sell for \$100. Please call Keith, 227-2806.

Three piece bedroom set. Full size bed, modern design, plus box springs and mattress. All in very good condition. \$125. Telephone: 295-5152.

Persian Rugs, sheepskin coat, other Persian handcrafts for sale (NRC leaving U.S.). Call Bijan, 964-8067 (eve.)

For Sale: Aquarium, 15 gal tank, pump, filter, heater and accessories. All good condition, \$25 or best offer. Call Linda Morse, 734-2282.

POOL PUMP & FILTER HPE for 18 ft diam. pool, \$40; POOL LADDER for 4 ft high pool, \$10; COUCH, Danish, \$20; All items in very good condition. Phone 378-5741.

H-O Train layout on 4'x8' plywood. Needs work. Two new brass locomotives + many extra cars, parts 567-3270, evenings.

Piccolo, Silver head, silver body - like new. 567-3270, evenings.

Would like to share ride with another gal - Belmont (Ralston-Hallmark area) to Ames. 8:00-4:30. 732-7950. Madeline Bolbol.

MOVING SALE: Lawnmower 4HP Dynamark \$100. Stereo Speakers \$10 pair, Belly Dance Costumes \$5. \$50. Call 969-5068 eves/weekends.

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